PrintFab
Version 2.8
©2004-2015 ZEDOnet

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License
Before printing with PrintFab all important documents must be saved. You may use PrintFab demo version for test purposes. After 30 days you must either remove the software from your computer or purchase a license key.
With a personal license key you have the non-exclusive right to use PrintFab only on a single computer (multi user license: on the number of licensed computers) .

This program package contains the software “Ghostscript” which can be installed optionally. Ghostscript is distributed under GPL license. The GPL license terms are shown in the PrintFab installer program.

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1. Welcome to PrintFab!

Welcome to PrintFab, the new printer driver software with dynamic color profiles and RIP functionality developed by ZEDOnet.

Thank you for using PrintFab! We are convinced that you will not regret your decision.
From now on your Mac and printer will combine to a great team: with PrintFab you will really make the most of your printer's capabilities - and thereby even save ink!

With PrintFab and the ZEDOnet profiling service it is now possible to create color profiles designed specifically for your printer and any photo paper or ink cartridge at a low fee. Alternatively, with the necessary equipment, you can create ICC profiles on your own and use them with PrintFab.

As we did not have all supported printers available for creating new color profiles, a few printers are yet only supplied with color profiles of the PrintFab predecessor "TurboPrint". Of course you will get high quality printouts with those printers. However for technical reasons some color controls are only available with dynamic PrintFab profiles.

In case you create an individual dynamic PrintFab color profile for your printer with help of the ZEDOnet color profile service you will have access to all controls.

You may use and test the demo version of PrintFab for 30 days. After this period a PrintFab logo is added to every printout. You can remove this PrintFab logo by converting the software to the full version with a personal license keyfile. This keyfile can be purchased at www.printfab.net.

Have fun with PrintFab - and the best printing results ever!

2. What is PrintFab?

PrintFab is ZEDOnet's new printer driver suite with RIP functionality. The innovative "dynamic" PrintFab color profiles ensure full control over color mixture and ink consumption combined with perfect print quality on any kind of paper.
PrintFab Home is designed for the advanced home user and the ambitioned photographer. PrintFab Pro and PrintFab ProXL support larger print formats and include additional CMYK proofing functionality (colorimetric printing). The PrintFab Pro versions are designed for professional users, especially in graphic design, publishing and pre-press business.

Optimum color reproduction

PrintFab was designed to take your printer to the max. You will get much more out of your printer than you ever will using the manufacturer's driver. PrintFab also puts you into control over ink consumption and will assist you in balancing ink usage versus print quality.
Decide for yourself if your digital photos shall be printed realistic with exact colors, more colorful and brilliant or in economy mode – for any single print job if you like.

Support for additional inkjet papers

With PrintFab you can choose from a wide range of inkjet media – you are no longer restricted to the printer manufacturer's products. PrintFab also supports photo paper from other manufacturers, e.g. "Kodak" and "Ilford". Support for additional types of paper can be added with our color profile service (see below).

Intelligent ink saving system

Save money with PrintFab! Ink is an important cost factor of inkjet printing – with PrintFab, lower ink consumption doesn't have to result in lower print quality.
PrintFab's intelligent ink saving system reduces ink consumption by 25-50% without producing pale looking pictures. On the first glance you won't even notice the difference!

Total cost control

Manufacturers often specify the capacity of an ink cartridge in units like “number of pages printed with 5% coverage”. Now how do you know how much ink you really need to print a picture?
And did you know that ink consumption can be quite different when printing the same picture on a different kind of paper?
PrintFab tells you how much ink will be used with your current driver settings and how much ink can be saved with different settings or using different paper!

Individual color profile service

If PrintFab’s color profiles don’t include your favourite paper or if you want to further improve print quality (e.g. for third-party ink cartridges) our color profile service is the solution. We create individual color profiles for your paper and ink at a very affordable price.

PrintFab makes profile creation simple and cost effective: Purchase a profile order number in our WEB shop, print the profile chart with the PrintFab toolbox and send in the profile chart. The profile is returned by email and can be installed easily.

With an individual color profile, color reproduction becomes more accurate (as there are manufacturing deviations with every printer). It also ensures the best print quality on paper not directly supported by PrintFab.

3. Intelligent ink saving with PrintFab

Save ink while maintaining high print quality!

If you apply twice as much ink you won't get twice as much color! The more saturated a color is, the more ink you will have to apply in order make it even more saturated. Before reaching maximum color intensity you will have to add about 20% more ink only to increase color saturation by 1%. This is where you can cut cost by weighing print quality against ink consumption. Brighter colors (that cover 90% of a picture) won't be changed at all. Just by cutting the peak color consumption you can save up to 20% – with hardly any visible difference.

Save with multicolor cartridges:

In most cases ink consumption is different for each color – often yellow and blue ink run out first. If your printer uses multicolor cartridges you have to exchange the whole cartridge even if there is a lot of ink left for some colors.
PrintFab helps you to increase the lifetime of your ink cartridges by reducing color consumption of one or several color inks without changing the color balance of your pictures!

Save with single-ink cartridge printers:

PrintFab's intelligent saving algorithm can save ink even with printers that have separate ink cartridges for each color.
One measure is to replace color ink by black ink for darker colors – one drop of black can replace three drops of other colors (dark colors are mostly mixed out of yellow, magenta and cyan ink).
If the printer is a 6-color photo printer, the same can be done with dark cyan / light cyan and dark magenta / light magenta inks. One drop of dark cyan has the same effect as several drops of light cyan – the only difference is that the print may look a bit "coarser". This means that depending on the picture a lot of ink can be saved without a visible reduction in print quality.

Of course it is also possible to use a bit more ink to improve the reproduction of pictures that contain a lot of fine details.

4. Installing / uninstalling PrintFab

To install PrintFab on your computer just start the PrintFab installation tool “Install PrintFab”. Choose if you want to install PrintFab or if you want to uninstall a previously installed version.

For installing or uninstalling PrintFab you will be asked for your user password to authorize the installer to copy certain system files.

When installing PrintFab you can have PrintFab installed as full version by loading a personal keyfile (i.e. your license key) with the “Select keyfile” button. Without a key file PrintFab will be installed as demo version.
You can purchase a PrintFab keyfile in our online-shop at www.printfab.net. It is also possible to activate your PrintFab demo installation later with a key file.

During the installation process PrintFab can also install the software package “Ghostscript”. This software enables you to easily print postscript documents. As it is distributed under GPL license we are able to include it in the PrintFab package for your convenience. It will be removed automatically when PrintFab is uninstalled.

Printer Setup

After a successful installation you should start the PrintFab toolbox right away. The toolbox is found in the “applications” directory. Now set up your printer with this utility (see description of the toolbox in the next chapter).

Network printers must be set up using the OS X printer setup utility, see chapter “6. Adding a printer with OS X system utilities on page 24.

After printer setup the PrintFab driver will be available in the print dialog of all application programs. Use the “PrintFab Settings” within the print dialog to choose print quality, type of paper, color settings etc. when printing. All PrintFab settings are described in chapter “7. Print dialog settings of PrintFab“, page 32.

5. PrintFab Toolbox

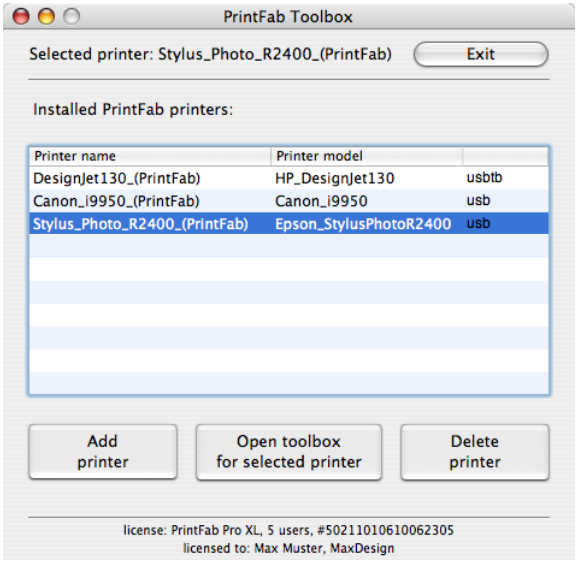
Using the PrintFab Toolbox, you can

- add or remove printers
- display ink status
- execute maintenance tasks (nozzle cleaning, head alignment, etc.)
- manage color profiles, print color charts for profile creation
- add user defined page formats

After installation of PrintFab you can find the Toolbox in the “Applications” directory.

The Toolbox “main menu“.

When starting the Toolbox, the main menu with a table of all installed PrintFab printers is displayed.



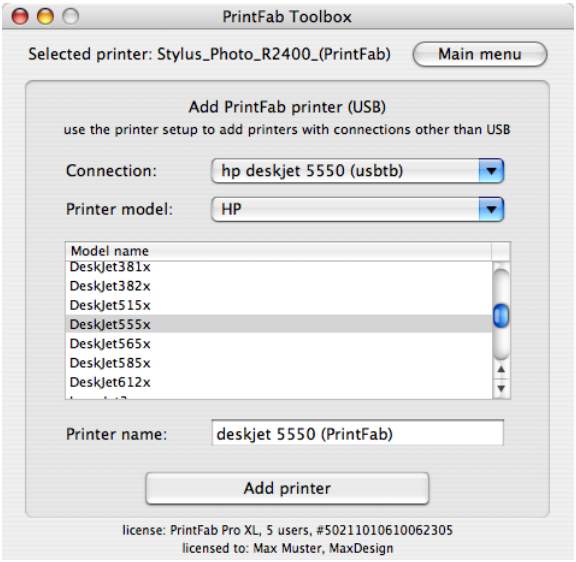
After installation this table is empty since no PrintFab printer has been installed yet. Now you can add a PrintFab printer, or select an installed printer and execute a maintenance job or manage a printer’s color profiles.

To add a PrintFab printer press “**Add printer**”.
You can remove an installed PrintFab printer with “**Delete printer**”.

By pressing “**Open toolbox for selected printer**” you open the maintenance menu and the color profile administration.

Adding a printer to PrintFab

After pressing "Add printer" the following menu appears:



Here you can set up local printers that are connected via USB interface. To install printers with other connections (e.g. via network), please use the OS X “printer setup utility” (see chapter 6. Adding a printer with OS X system utilities on page 24).

The “Connection” selector lists all currently connected USB printers. Choose the printer for which you want to install a PrintFab driver. At the end of each entry the USB driver is shown in brackets. If you have installed the alternative “USBTB” driver, you will see each printer twice, once with (usb) and once with (usbtb).

You also need to select the printer manufacturer and the printer model so PrintFab can control the printer correctly.

Finally, enter a name for the new printer configuration – this is the name with which your printer will be listed in all print dialogs, e.g. “Epson Stylus R1800 PrintFab” or “HP Designjet PrintFab”.

If all settings are correct, press „Add printer“ – then the printer is installed and will now be listed in the printing dialogs of your application software.

Please check if you printer is listed with the correct printer model in the table of installed printers (Toolbox main menu).

Printer Toolbox

To enter the maintenance menu select a printer and press „Open toolbox for selected printer“ in the Toolbox main menu.

Please note that some maintenance functions are not available for all printers. In case a function is not available, the corresponding button is disabled.

Printer Maintenance

The following maintenance functions are available:

- **Print Test Page**
- **Show Ink Status**
- **Nozzle Check**
- **Clean Print Heads**
- **Align Print Head**

After selecting one of these buttons the selected maintenance job is performed or an additional menu with some further choices will be displayed (e.g. clean black or color print head).

Print Test Page

It is recommended to print a test page after adding a printer or if printing from applications does not work properly. The “test and status page” also contains important information on printer setup.

Show Ink Status

Available for most inkjet printers - displays the current ink levels. The printer must be switched on.

Reset Counters

Reset PrintFab's ink consumption counters that are shown in the print dialog's "PrintFab Settings", tab "Ink info". This is not the actual printer ink level but a consumption value estimated by the printer driver. The ink cartridge fill levels can only be reset by the printer when the cartridge is replaced.

Nozzle Check

Use this function to check if the print head is working properly. A sheet of A4 or Letter sized paper is required. For each ink color a test pattern is printed. If one or several lines are missing or “smeared”, the toolbox function “Clean Print Heads” should be executed.

Clean Print Heads

Starts automatic head cleaning. It is normal that ink nozzles get clogged from time to time, so print quality is reduced (e.g. banding). In this case print a “Nozzle Check” page and start print head cleaning if necessary.

Attention: Cleaning consumes some ink, so this function should only be executed if necessary.

Align Print Head

Align the black & color print heads and/or align bidirectional printing. The alignment procedure depends on the printer model. Usually a page with several lines of test patterns is printed. For each line, the number of the best aligned pattern must be entered (e.g. choose the field where two lines align best or where the least “banding” is visible.

Custom Page Sizes

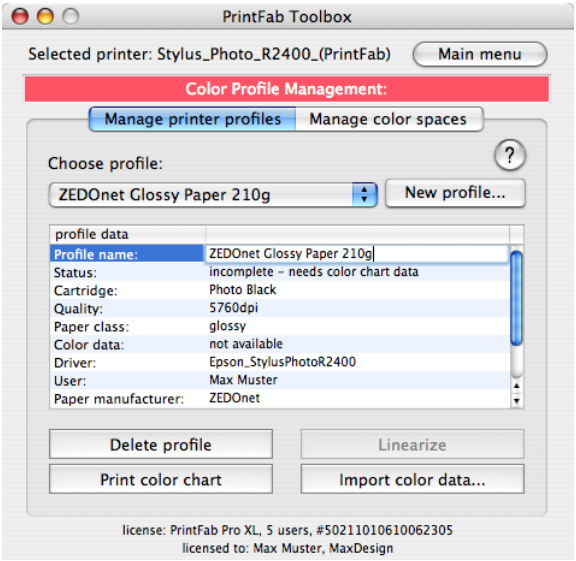
Select „Custom Page Sizes“ to define new printer specific custom page formats (page 21).

Manage Color Profiles

Select „Manage Color Profiles“ to enter the color profile administration menu. Here profiles can be added to a printer or profile charts for individual color profiles can be printed.
In PrintFab toolbox there are two categories of profiles: **Printer profiles** describe color conversion for a certain printer, type of paper and ink. **Color spaces** describe colors in documents that should be printed.

General information on color profiles can be found in chapter “8. Information on color profiles with PrintFab“ on page 49.

Printer Profile Management



List of installed color profiles

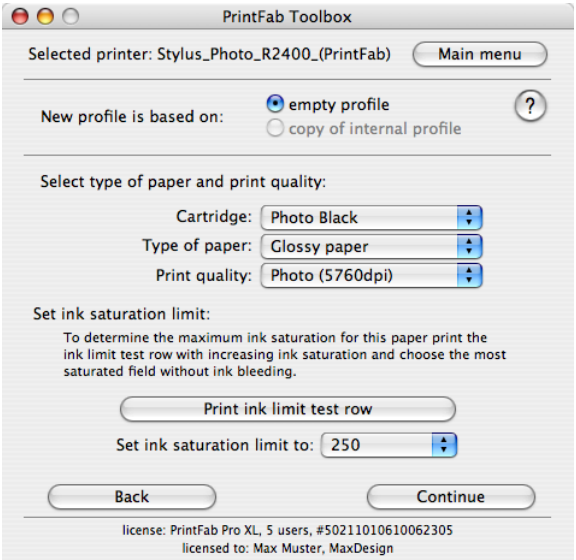
Here you can find the list of PrintFab color profiles that you have added to your printer. Only profiles that were created individually for your printer are listed, so initially the list is empty. Select one of the entries in the drop down list to get more information about a profile:

Profile name with this name the profile is listed in the print dialog's “Media type” selector. This field is editable.
Status “incomplete” after creation of a new profile entry, “complete” when color profile data have been assigned using “Import color data”.
Cartridge additional print options (only available for some printers)
Quality print quality for which the profile was made
Paper class type of paper, e.g. plain paper, glossy photo paper etc.
Linearization date of last linearization or “not available” if the printer has not yet been linearized or if linearization is not possible
Color data type of color profile (ICC / ZEDOnet); for ICC profiles also name of ICC file
Driver name of printer driver
User, Paper manufacturer, Paper, Ink manufacturer, Ink additional information on profile

New profile...

First create a new profile entry with the button “New profile...”. This entry is “empty”, i.e. it doesn't yet contain color correction tables. The new entry can be used to create a new profile using our ZEDOnet profile creation service. If you have the necessary equipment (spectrometer, profile creation software), you can also create and add your own ICC profile.

In the following dialog please select the type of profile you want to create:


PrintFab Toolbox
Selected printer: Stylus_Photo_R2400_(PrintFab)
Main menu
New profile is based on:
empty profile
copy of internal profile
Select type of paper and print quality:
Cartridge:
Photo Black
Type of paper:
Glossy paper
Print quality:
Photo (5760dpi)
Set ink saturation limit:
To determine the maximum ink saturation for this paper print the ink limit test row with increasing ink saturation and choose the most saturated field without ink bleeding.
Print ink limit test row
Set ink saturation limit to:
250
Back
Continue
license: PrintFab Pro XL, 5 users, #50211010610062305
licensed to: Max Muster, MaxDesign

In the section “New profile is based on” there are two options:

- create a new “empty profile”
- create a “copy of an internal profile”

The option “**copy of internal profile**” is used to linearize existing PrintFab profiles. In the current PrintFab version this is only possilbe with printers that have a built-in densiometer for automatic linearization (e.g. HP DesignJet printers with “closed loop color calibration”). Read more about it in section “Linearize” on page 17.

To create a new profile choose “New profile is based on: **empty profile**”.

In the section “Select type of paper and print quality” choose the desired print parameters for the new profile. It is important to choose these settings carefully because color reproduction depends on print quality, maximum ink saturation, type of paper, etc.

The setting “Cartridge” is only available for some printers. It is used to control printer specific settings like “color” or “photo” print cartridge inserted, gloss optimizer on/off, “matte black” or “glossy black” ink used. Choose the setting that shall also be used for later prints with this profile.

Specify the paper type:

- "**Plain paper**" for normal paper, e.g. copy paper / (color-) laser paper
- “**Inkjet Paper**“ for matte coated inkjet paper (not for matte photo paper)
- "**Glossy Paper**" for high quality photo papers (glossy, semi-matte / semi-glossy or pearl)
- "**Transparency**"
- "**Other paper**" for a paper that does not match any choice above

You must also select the print resolution (quality) you want to print with on the chosen paper. In many cases you will select the highest quality. A profile can be used with all resolutions but the best results will be achieved with the resolution at which the profile chart was printed.

The “**Ink saturation limit**” specifies how much ink can be applied to the paper. The default (“300%” for CMY/RGB printers, “250%” for all other printers) will give good results in most cases.

Depending on the paper, a different level of ink is needed to achieve maximum color saturation. The more ink is applied, the more saturated colors can be printed. However, if too much ink is applied the colors will flow (“bleeding”).

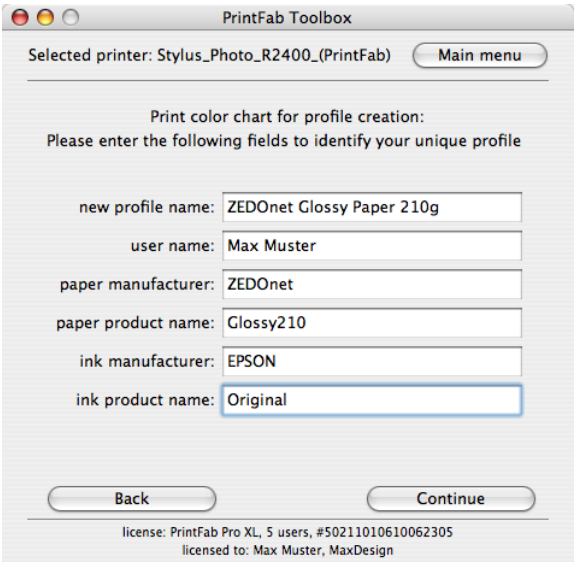
Therefore you can determine the maximum ink level for the chosen paper by printing a line with increasing ink levels. This can be done with the “**Print ink limit test row**” button. You can use the same sheet of paper for this test row that you will use later for printing the color chart.

In the printed ink limit test row, find the box with the highest ink level where the ink does not flow and dries within a few minutes. Set the “ink saturation limit” control to the value printed in this box.

Attention:

If the value you choose is too high, the colors of your profile chart will float and the chart cannot be measured. If the paper transport rolls of your printer smear the printed boxes of your profile chart, you will need to reduce the ink saturation limit and reprint it.

Choose “Continue” to get to the next dialog page.



Enter a name for your profile and supply information on paper and ink. The profile name will be visible in the print dialog later – choose a significant name so that you will be able to choose the correct profile. Information on paper and ink will be visible in the profile management menu.

Press “Continue” and you will see a summary of all profile information.

“Create profile” will finally create a new entry in PrintFab’s list of printer profiles.

Important:

- The new profile doesn't yet contain any color correction data. Only when you import ZEDOnet or ICC color correction data the “empty profile” will be completed and usable for printing with correct colors.
- If your printer supports automatic calibration / linearization, you need to execute the “Linearize” function before printing a profile color chart (see below).
- The next step will be printing a color profile chart (see below).

Further buttons for printer profile administration

Delete profile

The currently selected profile will be removed from PrintFab's list of printer profiles.

Linearize

Linearization is only possible with some printers that have a built-in densiometer for automatic linearization, e.g. HP DesignJet printers with "closed loop color calibration". Otherwise the button "Linearize" is disabled. Manual linearization is not supported in the current PrintFab version.

Use this function to

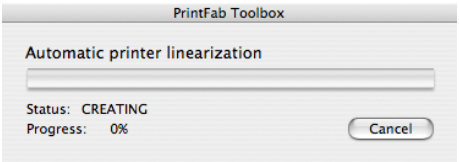
- create a base linearization for a new profile
- relinearize an existing profile

To **relinearize** PrintFab's built-in profiles you need to create a "copy of an internal profile". Choose "New profile..." with the option "New profile is based on: copy of internal profile". Select the base profile and enter a name for the copy. After creating the copy, a new entry is available in the list of printer profiles. The "Linearize" button will start the relinearization.

Base linearization of a new "empty" profile (no color correction data has been imported yet) is also started with the button "Linearize".

Profiles should be relinearized from time to time to maintain color quality. This can also be performed with the button "Linearize".

Enter a sheet of paper (with at least A4 / Letter size) or make sure that the correct roll paper is inserted. "Continue" starts automatic linearization.



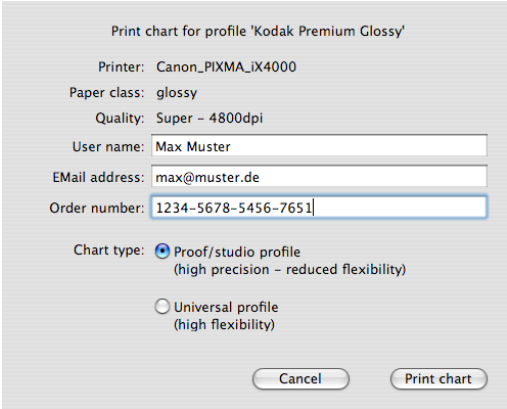
A status window informs you on the linearization progress. This is an automatic process that should not be interrupted.

Print color chart

With this function you can print a color chart for ZEDOnet profile measurement service. (If you want to create an ICC profile with your own measurement equipment read the next section).
We offer a low cost measuring-service for users of PrintFab. Send us your printed

color chart by mail, and we will measure it and return your individual color profile by email.

Some information will be requested before the color chart can be printed:



Enter your **name** and the **email address** where we shall send the profile data.

In the next line enter the **order number**. To be able to offer the profile measurement service at a low price we have set up an internet order system where you purchase an order number first (at www.printfab.net).

By indicating this order number you prove that the measuring fee is already paid and ensure that you will be sent your individual profile by email without any further requests.

You can choose between two **Chart types**:

- **Proof / studio** for higher color precision
  Profiles created with this chart type only support a limited number of "ink control" settings in the print dialog (with photo printers the usage of bright cyan and bright magenta cannot be set individually). These charts contain more color shades but less combinations of photo inks and the correpsonding regular inks (e.g. photo magenta and magenta).
- **Universal profile** for higher ink control flexibility
  With this profile all ink control settings are available in the print dialog.

Now insert the sheet of paper where the ink saturation row was printed on.

> **Important**:
> Make sure that you rotate the sheet so that it will be printed on the blank section (i.e. insert the paper with the blank section leading – so the test row would be overprinted last)

Start the printout by pressing **"Print chart"**. It will take some time until the printer starts printing since the color chart must be calculated first.

Let the printed page dry for at least two hours and do not touch it. Put this color profile chart (do not fold it) in a robust envelope and mail it to:

ZEDOnet GmbH
- PrintFab color profiles -
Meinrad-Spiess-Platz 2
D-87660 Irsee
Germany

Since all information needed is printed on the profile sheet, you do not need to include an accompanying letter. Within approx. 14 days after your chart arrives, we will send the calculated PrintFab profile to the email address you specified.

Import color data

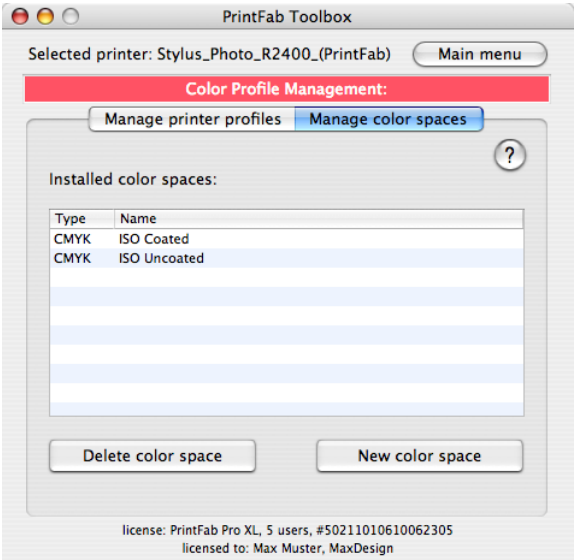
Imports color correction data for the currently selected profile entry. Files from ZEDOnet profile creation service or user-created ICC profiles are accepted. Choose your profile data file in the file selection dialog.

Please note: Application programs may have to be closed and opended again before the new profile is available in the print dialog.
The new profile will be shown in the “Media Type” selection of the print dialog, section “PrintFab Settings”.

Important: It doesn't make sense to import standard ICC profiles that are available from paper manufacturers or printer manufacturers. Such profiles are for use with the manufacturer's printer driver only – and thus do not produce correct colors using other drivers. The reason is that different printer drivers use different ink mixing and different halftoning algorithms. For accurate colors, the color chart that is measured for an ICC profile must be printed with PrintFab.

Manage color spaces

Color spaces are required to interpret the colors of a document. In the print dialog (PrintFab Settings / Color) the same color space must be selected as in the document or application program. ICC profiles for additional color spaces can be installed using this dialog.

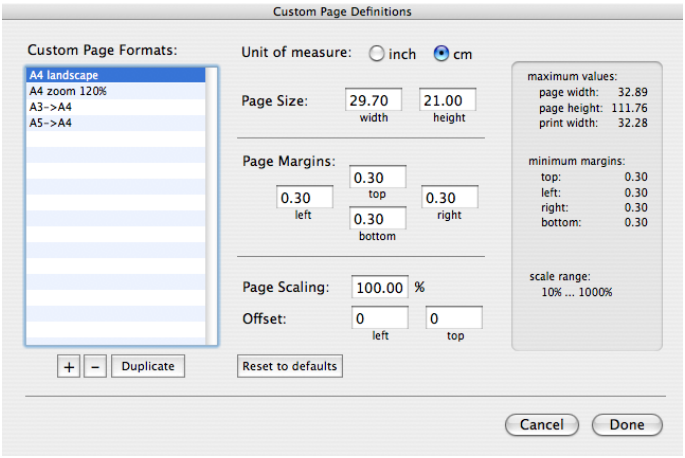


Select "**new color space**" to add an ICC color profile. Color profiles for RGB devices (e.g. monitor, scanner, digital camera) and CMYK devices (e.g. offset printing) can be imported and used for printing RGB or CMYK documents.
Select your ICC profile in the file selection dialog - PrintFab Toolbox will display the profile name, copyright and profile type (RGB / CMYK). Press "OK" to install the profile.
After adding the profile, an additional RGB or CMYK color space will be available in the print dialog (PrintFab Settings / Color). Please note that the correct "Mode" must be selected (Color RGB / CMYK Proof) to have the new color space listed.
The application program may have to be restarted before the new color space will be available.

Custom Page Sizes

New printer specific page formats can be defined in this dialog. This is especially important with large format printers and / or roll paper for efficient paper usage.
Moreover you can set a scale factor (e.g. enlarge from A5 to A4 size) or enter offsets to adjust print position on the page.

Note: The Mac OS X page setup dialog which can be accessed from application programs also offers a “custom page sizes” dialog. However, page sizes defined in this dialog don't work properly with printer drivers like PrintFab that are based on the CUPS printing system.



Printer specific page formats are shown in the list on the left. Page size, margins, scaling and offsets are displayed (or entered) in the middle of the dialog window. An information field on the right shows maximum paper size and minimum margins. The unit of measure can be set on the top to either “inch” or “cm” (1 inch = 2,54 cm).

Adding a new page size

The button “+” adds a new page size. A new list entry named “new format” will appear – double click on the entry to rename it. Choosing a significant name will later make it easier to find the size in the application's page setup.

Now enter the desired page dimensions. Make sure that the correct unit “inch” or “cm” is selected.
The printable area is defined by the left, right, top and bottom margins. For technical reasons most printers leave a small margin at the paper edges, which means that margins must not be smaller than the minimum margin listed in the table on the right.
Some printers can print “borderless” but only for certain standard page sizes. One reason is that only for certain sizes ink absorbers are present that prevent ink from

getting into the printer mechanics. This means that even for those printers no borderless custom page sizes can be defined.

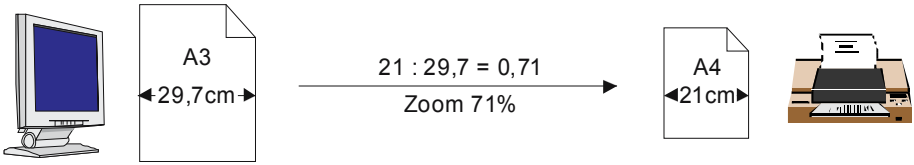
Page Scaling

This setting is for scaling print size. For example an A3 sized document can be printed on an A4 printer without having to reformat the document – or an A4 document can be automatically enlarged and printed on A3 paper.
The scale factor can be defined in percent, “100%” means that no scaling is performed. Page size and margins always refer to the actual print size.

Example: Define a custom page format that reduces A3 documents to A4 size

Enter 21.0 x 29.7 cm (or 8.27 x 11.69 inch) – the actual print size is A4. Page margins are left at minimum. The scale factor is calculated as print size divided by document size:

21cm / 29.7cm = 0.707 => “71%” is the correct scale factor



In the application program the dimensions of the new page format will be A3.

Offset

On some printers paper is not exactly positioned due to mechanical tolerances. Thus the printout may not be positioned exactly as defined by the driver (e.g. printout is shifted to the left or right). Use the “Offset” fields to correct the print position.

The “left” offset specifies how much the printout should be shifted to the right. E.g. 0,1cm means the printout will start 0,1cm further to the right.
This correction is not visible in the application program, only the printer is affected.
Please note that specifying an offset will increase unprintable margins. Moving the printout to the right (left) will increase the unprintable right (left) margin. Accordingly moving to the bottom (top) will increase the unprintable bottom (top) margin.

Deleting a custom page size

Pressing the “-” button will delete the currently selected custom page size. No warning will be shown. However, you can undo all changes by leaving the custom page size dialog with the “Cancel” button.

Duplicate

This button duplicates the currently selected page size.

Reset to defaults

Pressing this button will reset page dimensions to maximum values for this printer. Page margins will be reset to minimum values.

Select “Done” to confirm your changes in the custom page size menu. “Cancel” will discard all changes since entering the page size menu.

6. Adding a printer with OS X system utilities

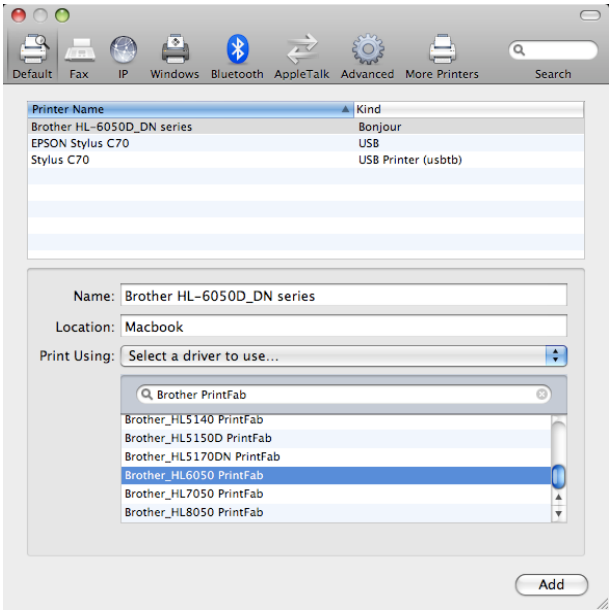
This chapter describes how to set up a PrintFab printer that is not connected via USB interface but via any other connection.

As printer setup is different depending on the version of OS X, there are several sections – please read the description for your version of OS X.

6.1 Printer Setup with OS X 10.5 - 10.11

Open “System Preferences” (located in the “Applications” directory), then select “Print & Fax” and click on “+” to add a new printer.

A dialog window opens which offers several choices: “Default” for printers that are automatically detected, “IP” for network printers, “Windows” for Windows network printers. There are further buttons for other connections that must be configured manually.



Choosing a printer in “Default”

Click on “Default” and a list of all automatically detected printers appears.

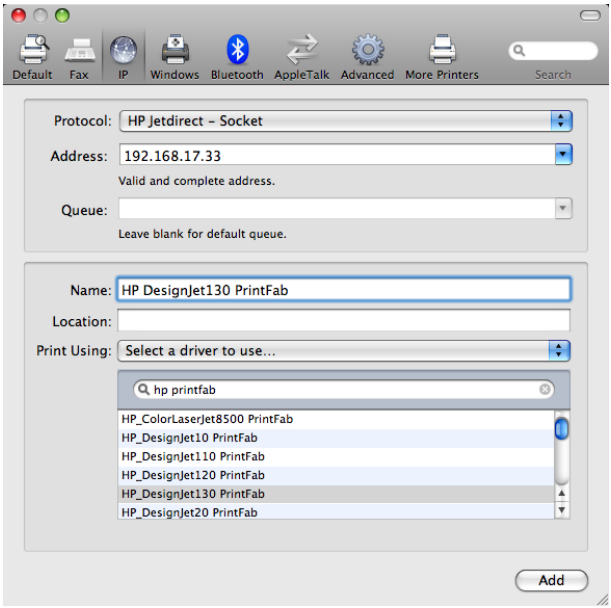
All local and network connections are searched for printers. The name and connection type (e.g. USB, Bonjour, ...) of all printers that can be found are listed. If a printer is connected by more than one connection (e.g. USB and network cable or several network protocols) it is shown more than once.

If your printer is not listed, either the type of connection is not supported or it cannot be detected automatically and the connection must be set up manually (e.g. “IP Printer” or “Windows”, see below). Some printers can only be detected if they were already powered up during system boot – you may try to reboot your computer while the printer is connected and switched on.

If your printer is listed, select it and choose a PrintFab printer driver (see section after next).

IP Printer (network printer)

This dialog is for installing printers manually that are connected via network and are not listed in the standard browser (except Windows printers – see next section).



Three different network protocols are available:

- Internet Printing Protocol - IPP
- Line Printer Daemon - LPD
- HP Jet Direct - Socket

Most printers or printer servers accept “HP Jet Direct – Socket” protocol. If printing using this protocol does not work (or does not work reliably), you should try “Line Printer Daemon – LPD” (in this case a queue name like “lp0” is required).

Address:

Enter the network address (ip address) of your printer or print server. Like every computer in a network also network printers have a unique address (e.g. 192.168.17.33).
Please see your printer manual or ask your network administrator how to determine the ip address.
In most cases the network address can be found in the printer's set up menu. Some printers print a page containing network address and other network information when a button on the network card is pressed.

Queue (required for IPP or LPD protocol)

Here you can specify the name of a print queue. This is important if several printers can be accessed on the same ip address e.g. on a print server with several printer ports. In most cases the first printer can be reached with the queue name “lp0” or “lp”, the second as “lp1” etc.
With “Internet Printing – IPP” protocol queue names are more complex – see the manual of your printer or print server for details.

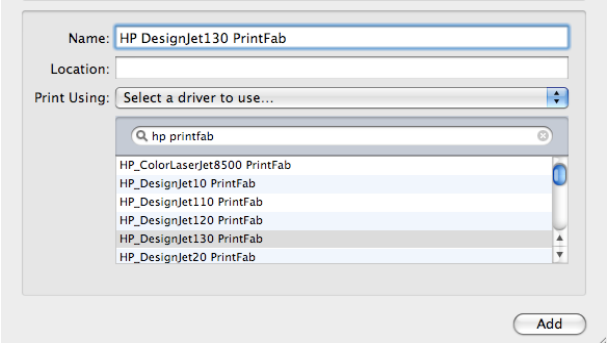
If you want to connect to a server with CUPS printing system using “IPP” protocol, the queue name must be “printers/” plus name of the local queue on the server , e.g. “printers/myprinter”.

Windows printer

The button “Windows” opens a dialog to set up printers that are connected to Windows computers. Choose a workgroup and a computer – a list of shared printers will appear.
Select the desired printer and choose a PrintFab printer driver (see next section).

Choosing a PrintFab driver and adding the printer

Enter a printer name in the field “Name” - this name will be listed in the application's print dialog.



It is recommended to add “PrintFab” to the name, e.g. “Canon i9950 PrintFab”. This

way you can see which printer entry uses the PrintFab driver (if also a manufacturer's driver has been set up for the same printer).

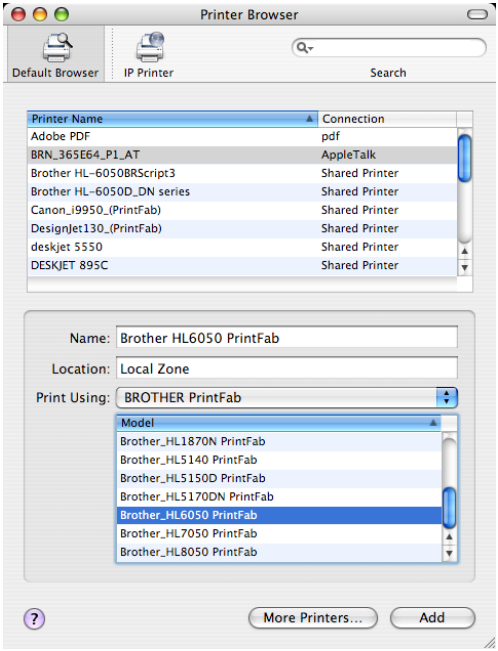
Now choose the correct PrintFab driver: In the drop down list “Print Using” choose “Select a driver to use...” and choose the driver. All PrintFab driver entries end on “PrintFab”, so you may enter e.g. “HP PrintFab” in the search field to show only PrintFab drivers for HP printers. Now select the printer model.

Finally press “Add” to finish printer setup. A new printer entry will be visible in the main window of Printer Setup Utility.

6.2 Printer Setup Utility with OS X 10.4 (Tiger)

“Printer Setup Utility” is part of Mac OS X and can be found in the “Utilities” subdirectory located in the “Applications“ directory.

Open the “Printer Setup Utility” and click on “Add”. A dialog window opens which offers two choices: “Default Browser” for printers that are automatically detected and “IP Printer” for network printers that must be configured manually. The button “More Printers...” is for adding Windows network printers and other connections that must be configured manually.



Choosing a printer in the “Default Browser”

Click on “Default Browser” and a list of all available printers appears.

All local and network connections are searched for printers. The name and connection type (e.g. USB, AppleTalk, Bonjour, ...) of all printers that can be found are listed. If a printer is connected by more than one connection (e.g. USB and network cable or several network protocols) it is shown more than once.

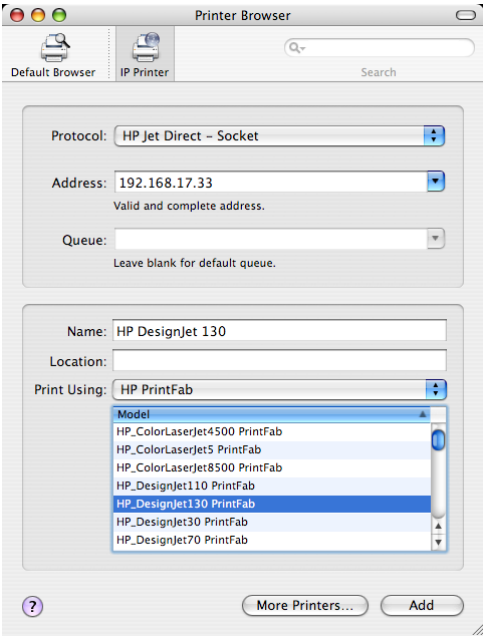
If your printer is not listed, either the type of connection is not supported or a different network protocol must be used (“IP Printer” or “More Printers...”, see below). Some

printers can only be detected if they were already powered up during system boot – you may try to reboot your computer while the printer is connected and switched on.

If your printer is listed, select it and choose a PrintFab printer driver (see section after next).

IP Printer (network printer)

Click on “IP Printer” - the network printer dialog will appear. This printer browser is for installing printers that are connected via network and are not listed in the standard browser.



Three different network protocols are available:

- Internet Printing Protocol - IPP
- Line Printer Daemon - LPD
- HP Jet Direct - Socket

Most printers or printer servers accept “HP Jet Direct – Socket” protocol. If printing using this protocol does not work (or does not work reliably), you should try “Line Printer Daemon – LPD” (in this case a queue name like “lp0” is required).

Address:

Enter the network address (ip address) of your printer or print server. Like every computer in a network also network printers have a unique address (e.g. 192.168.17.23).

Please see your printer manual or ask your network administrator how to determine the ip address.
In most cases the network address can be found in the printer's set up menu. Some printers print a page containing network address and other network information when a button on the network card is pressed.

Queue (required for IPP or LPD protocol)

Here you can specify the name of a print queue. This is important if several printers can be accessed on the same ip address e.g. on a print server with several printer ports. In most cases the first printer can be reached with the queue name “lp0” or “lp”, the second as “lp1” etc.
With “Internet Printing – IPP” protocol queue names are more complex – see the manual of your printer or print server for details.

If you want to connect to a server with CUPS printing system using “IPP” protocol, the queue name must be “printers/” plus name of the local queue on the server , e.g. “printers/myprinter”.

More Printers... (e.g. Windows printers)

The button “More Printers” opens a dialog to set up printers that are connected to Windows computers. Choose a workgroup and a computer – a list of shared printers will appear.
Select the desired printer and choose a PrintFab printer driver (see next section).

Choosing a PrintFab driver and adding the printer

Enter a printer name in the field “Name” - this name will be listed in the application's print dialog.

It is recommended to add “PrintFab” to the name, e.g. “Canon i9950 PrintFab”. This way you can see which printer entry uses the PrintFab driver (if also a manufacturer's driver has been set up for the same printer).

Now choose the correct PrintFab driver: In the drop down list “Print Using” choose the printer manufacturer – all PrintFab driver entries end on “PrintFab”, e.g. “Canon PrintFab”. Now select the printer model.

Finally press “Add” to finish printer setup. A new printer entry will be visible in the main window of Printer Setup Utility.

7. Print dialog settings of PrintFab

Printing from applications

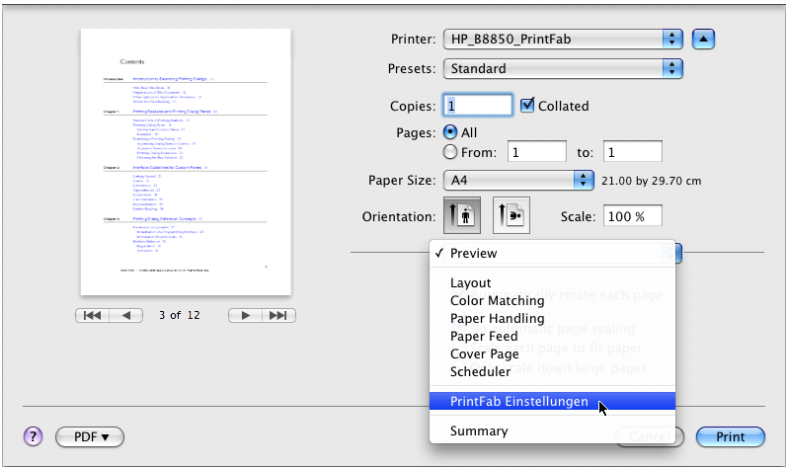
In almost all applications a printout is started with the menu option “Print…” (located in the “File” menu). The page size is set separately in the „Page Setup“ dialog.

Menu option “Page Setup…”

With the „Page Setup...“ dialog you can set the page size (“Format for:”) either for all printers or directly for a certain printer. If you choose “Any printer“ you can print a document on different printers without changing the page size.
You will be offered all paper formats your printer can handle only if you select this printer in the “Format for:“ field. Only if a printer is specified your application will show the correct minimum margins.
If the required page size is not available, you can define your own size using PrintFab Toolbox – see chapter “Custom Page Sizes” on page 21.

Important: Defining a new page size using the “Manage Custom Sizes...” options in the “Page Setup” dialog does not work properly with PrintFab (and other drivers based on the CUPS printing system). Define custom page sizes in PrintFab Toolbox instead.

The print dialog



After selecting “Print…” in an application program a print dialog appears. Here you can select the printer and configure many settings such as which pages shall be printed, etc. You can also load and save printer settings.

Creating Printer Presets

Using “Presets” you can save your printer settings so you don’t always have to adjust your settings before printing. With “Save as…” you can save the current settings with a name of your choice. All saved settings will be listed in the “Presets” field and can be activated by selecting them.

Settings of the print dialog

The print settings are grouped into categories, e.g. “Layout” for printing several pages onto one sheet of paper, “Paper Feed” for choosing the paper source and “PrintFab Settings” for settings specific to PrintFab.

“Color Matching” Settings (“ColorSync” under OS X 10.4)

Select “Color Matching” = “In Printer” to get proper color reproduction.

Two-Sided printing - “Layout” Settings

If your printer supports automatic two-sided printing, you can activate two-sided printing in the “Layout” settings.

Roll Paper / Cutter - “Paper Feed” Settings

For printers that accept roll paper, you can activate the roll paper path by selecting “All pages from” = “Roll paper” in the “Paper Feed” settings. Also the paper cutter (if present in the printer) can be activated here.

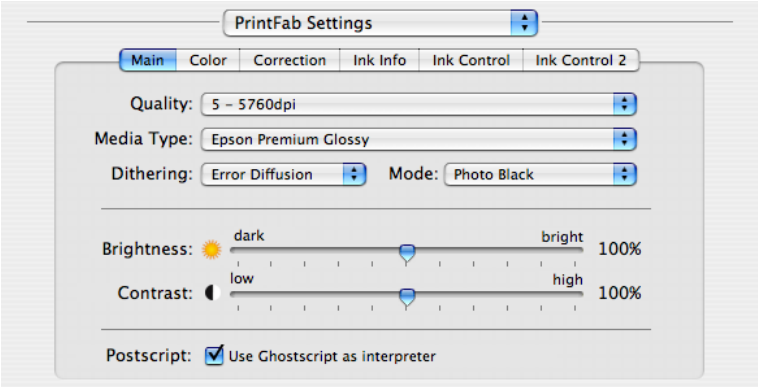
PrintFab Settings

All settings specific to PrintFab can be found in the “PrintFab Settings” category.

The PrintFab settings are split into submenus that are organized like index cards.

PrintFab settings „Main“

In this submenu you find the most frequently used settings.



Quality

Almost every printer offers several print modes. Normally, the higher the print quality the longer the printout will take. So you will probably choose a lower print quality for draft and test printouts and one of the highest qualities for the final printout.

Media Type

Specify the medium you want to print on (i.e. the type of paper or a different media type like transparency, etc.)
To achieve a good color quality it is very important that you set the correct media type. If the paper you want to print on is not offered you can create an individual color profile for this paper and your printer (see description of the PrintFab Toolbox section “” - “New profile...” on page 14).

As an alternative you can select a similar medium, e.g. “Inkjet Paper” for any matte coated inkjet paper or “Glossy” for any glossy or semi-glossy coated photo paper. But keep in mind that you can only obtain exact colors if the paper is supported directly.

An asterisk (*) following the name of the listed paper type means that for this medium there is no dynamic PrintFab color profile provided - instead an ICC profile is used. In this case you will achieve a good color quality but not all color settings are accessible. Some controls will then be disabled.
Nevertheless you can get an individual PrintFab color profile for your printer and your preferred paper via the ZEDOnet profile measuring service - then you will be able to access all color controls and you will get the best color results possible since this profile is designed specially for your printer. Read more about individual PrintFab

color profiles in the description of the PrintFab Toolbox section "" - "New profile..." on page 14.

Mode

This setting is only available for certain printers to control printer specific options, e.g.

- black or color print head inserted in the printer
- 4-color printhead or 6-color photo printhead used
- matte black or photo black ink cartridge used
- gloss optimizer on or off
- normal or economy print mode

Dithering

Pictures and photos can contain millions of different colors, but printers normally can only print with black and three (or up to eight) different ink colors. It is therefore necessary to create intermediate colors or shades of gray either by mixing the ink colors and/or by applying certain dithering patterns to produce the illusion of more colors than the printer actually provides. To accurately represent all colors, PrintFab supports three different dithering patterns:

Error Diffusion

Recommended setting for inkjet printers

This diffuse pattern tries to eliminate any visibly noticeable geometrical pattern. Even fine details are reproduced. As the distribution of the dots requires a lot of processing power, the printout time is higher than with the *Ordered* patterns.

Ordered fine

The dot pattern is similar to those used for newspapers printing. In this mode printouts are not as smooth as with the *Error diffusion* pattern but significantly faster.

Ordered coarse (best pattern for laser printers)

This pattern is not as fine as the other "Ordered" pattern and is therefore better suited for laser printers as these printers have difficulties in producing a homogeneous printout with fine patterns.

Brightness

Use this slider to render the printout lighter or darker. The higher the value the brighter your printouts will get and vice versa.

Note: Only intermediate colors will be changed, black and white will remain unchanged - i.e. pure black will be printed as pure black, white as pure white.
If you also want to brighten the black parts of a printout you can reduce the contrast with the control described next.

Contrast

Use this slider to increase or decrease the contrast of your printout. With a decreased contrast white will stay unchanged, i.e. only dark colors will become brighter. With an increased contrast bright colors will become brighter and dark colors will become darker.

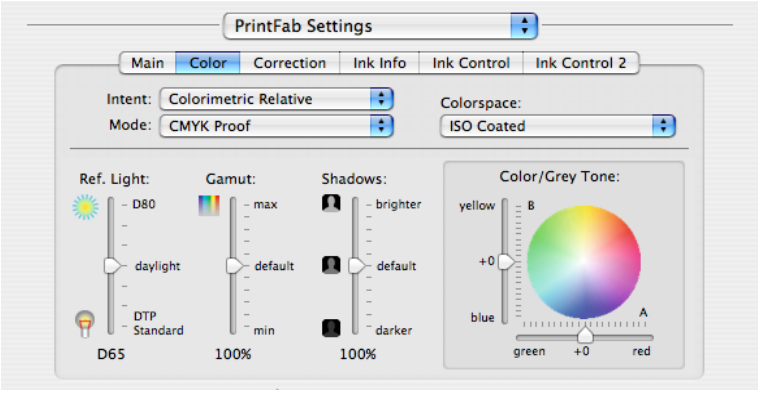
Postscript

This option is only relevant for printing Postscript documents or for applications that use Postscript for printing (e.g. Acrobat, InDesign, Photoshop).
Inkjet printers and some laser printers do normally not understand the postscript page description language. Thus an interpreter software is needed for translating the postscript commands into graphics. The PrintFab software installer package includes the postscript interpreter “Ghostscript” which is distibuted under the free GPL license. With Mac OS X 10.3 (and higher) a postscript interpreter is also part of the operating system.

By default the option "Use Ghostscript as interpreter" is selected. Ghostscript produces good results in most cases. If certain documents should not be printed properly, you can switch to the OS X internal interpreter by deselecting this option.

This option is only available if Ghostscript is installed.

PrintFab settings „Color“



Rendering Intent

With some printer drivers not all rendering intents are available as they are not yet provided with new PrintFab color profiles. If there are no PrintFab profiles available for your printer you can generate an individual color profile - see chapter “9. How to create individual color profiles” on page 51.

The following rendering intents are available:

No Correction

Color management is switched off, printed colors will not match document colors. This setting should only be chosen to print a profile chart when creating an ICC profile.

Perception - Standard setting

The color space of the document is reduced to fit into the printer’s color space. All colors are shifted homogeneously in a way that the overall perception of the image colors will not be changed. As it is mostly the very intense colors that cannot be printed, color saturation and contrast will have to be reduced slightly. Thus the color balance of the printout will be correct.

Perception Photo – optimized for photographs

The color reproduction is optimized for digital photos. Contrast and color saturation are reduced as little as possible to achieve vivid and brilliant colors.
As a consequence some details may be lost in very dark or very saturated parts of the image.

Perception Inksave – optimized for low ink consumption

Color reproduction is also optimized for digital photos, but some additional steps taken to reduce ink consumption. Ink consumption is decreased only to a certain extent to keep the image quality as high as possible.
Additionally all colors are reproduced a bit “cooler” to save yellow ink and very intense colors are printed a bit less saturated.

With this setting you save on average about 20%-35% of ink without a noticeable loss in print quality. (even in comparison with the original printer driver of the printer manufacturer).

Saturation

The color reproduction is optimized for diagrams and charts but not suitable for digital images. The printer driver tries to achieve very luminous colors.

Colorimetric Absolute
(PrintFab Pro only)

All colors that can be printed will be reproduced exactly. However colors that cannot be printed must be reduced in saturation. Depending on the paper used, details could be lost - especially in darker or very luminous parts of the image.

Colorimetric Relative
(PrintFab Pro only)

Same as above but in addition the white point of the document is adapted to the white point of the chosen paper.
This intent should be used when printing with the „CMYK-Proof“ mode (see below).

Mode (color mode)

Specifies whether the printout is done in grayscale or in color. You can choose between the following options:

Grayscale Fast – default setting for B/W printers

This mode produces fast printouts without colors at a medium dithering quality. Use this mode with fast printers when printing larger documents.

Grayscale

For printing grayscale documents with photos use this setting as the dithering quality is better than in the “grayscale fast” mode. Only black ink is used. The calculation of print jobs takes longer than in the ”fast” grayscale mode.

Gray Photo

Recommended setting for high-quality black & white photos. Brighter shades of gray are printed by mixing primay colors, thus looking less grainy. On some printers also grey photo ink is used. In this mode the “Color / Grey Tone” settings take effect (e.g. to achieve a sepia color balance).

Color - RGB – default setting for color printers

This is the correct setting for printing most documents or photos in color. PrintFab assumes that the colors of your document belong to an RGB color space which you can specify with the “Color Space” control.

Note for professionals:

Documents that are already separated into the four standard colors “CMYK” for pre-press must be printed in “CMYK Proof” mode described below. This ensures that the colors will be processed correctly.

PrintFab cannot detect the color mode (CMYK or RGB) automatically. If you get majr color deviations the reason may be that RGB mode was used with CMYK data.

CMYK Proof (PrintFab Pro only)
CMYK Proof (Mix Black) -”-

CMYK Proof must be used when printing documents that are based on the CMYK color model for prepress production. This is the case when printing from publishing applications like “InDesign” or when printing CMYK-bitmaps from “Photoshop”.

When using CMYK color mode specify the CMYK color space with the "Color Space" control.
PrintFab cannot detect the color mode automatically. If you get major color deviations, the reason may be that inappropriately CMYK-Proof mode was used with RGB data.

In “CMYK Proof” mode the black (“K”) color channel of the document is printed using black ink. Thus colors can reproduced more exactly.
In “CMYK Proof (Mix Black)” mode lighter shades of gray are printed by mixing primay colors. Thus shades of gray are looking less grainy.

Important: For best proof results, we recommend to create an individual color profile for your printer and your preferred paper, e.g. using the ZEDOnet profile measuring service. More information about individual PrintFab color profiles can be found in the description of the PrintFab Toolbox section "" - "New profile..." on page 14.

Colorspace (color profile of document)

This control specifies how the colors of a document will be interpreted. There exist different RGB and CMYK color spaces. Thus, to correctly interpret RGB or CMYK values PrintFab needs to know to which color space they belong. There are different RGB and CMYK color models as they are referring to certain displays (RGB) or press colors (CMYK).

The following color models are available in PrintFab – additional profiles can be added in PrintFab Toolbox:

generic RGB-Profiles:

- **sRGB** (default setting for mode "Color")
  This is the most common RGB color space for digital photos on PCs and for digital cameras. (Gamma value approx. 2.2)

- **Apple RGB**
  This color space is used with most Apple Macintosh computer displays. (Gamma value approx. 1.8 -> Pictures will be printed brighter than with sRGB)

see the description of PrintFab Toolbox on see the description of PrintFab Toolbox on

If your documents are printed too dark with "sRGB" choose "AppleRGB".

The following RGB color spaces are less common and should only be selected if your document is actually referring to the respective RGB color space. see the descri

- **CIE RGB**
- **NTSC1953** – RGB standard of the US television system
- **PAL** – RGB standard of the European PAL TV system
- **SMPTE-C**
- **WIDE RGB**

generic CMYK-Profiles (without taking account of the characteristics of printing press and paper)

- **Euro**
  color space compatible to the European standard for offset printing

- **USA**
  color space compatible to the American standard for offset printing

- **Japan**
  color space compatible to the Japanese standard for offset printing

  The following profiles are European standard profiles which have been included with the kind permission of ECI, the European Color Initiative. A description is included in the “profiles” folder of the PrintFab download package, the most current version and additional profiles are available on the web site www.eci.org.

- **ISO Coated**
  Offset printing on coated paper

- **ISO Uncoated**
  Offset printing on uncoated paper

Reference Light

(This option is only available with print media supported by PrintFab color profiles)

Choose for which illumination the colors of your printouts shall be optimized.

Technical background:

> Colors look different when illuminated with different lighting, an effect that is also known as color metamerism. The red colors of a photo look more intense when viewed in artificial lighting (e.g. a desk lamp) than when viewed in daylight. That’s why a photo may look correct in artificial light but pale when viewed in daylight - or vice versa, a picture that looks good in daylight may look reddish when viewed with a desk lamp. The intensity of this effect depends very much on the ink and is therefore not relevant for some printers.
> This is also important for prepress simulation (proofing). Printouts with different printer models (and hence with different inks) can be nearly identical only at one certain type of illumination.

The illumination is specified by the color temperature. The settings range between D50 (good artificial light) and D80 (bluish daylight). The average daylight corresponds to D65.
Light with 5000K color temperature (D50) is the reference illumination for pre-press.

When printing digital photos better results are normally achieved with reference lighting set to D65 to D80 (warmer skin colors, prevention of blue color tones turning purple).

With ICC color profiles only measurement data for D50 light are available. If a different illumination is chosen an approximation will be used (chromatic adaption formula).

Color Gamut (size of color space)

Here you can select the extent to which the color space of the source document is restricted (less vibrant colors) or enlarged (more vivid colors). For example you can reduce the amount of automatic color space restriction with the rendering intent “Perception” by enlarging the color gamut. This setting is not effective with the rendering intents “Colorimetric Absolute” and “Colorimetric Relative” as these in tents exclude any color space modification.

Shadows (reproduction of dark colors)

Here you can adjust the reproduction of shadow details in photos. Distinction of shadow details in printed documents is often only possible with good lighting. Increasing "Shadows" will cause dark colors to be printed brighter, thus increasing contrast in dark areas. Reducing "Shadows" will do the opposite. Brighter colors are not affected.

Color / Grey Tone

Use this control to change the color or gray balance. This setting relates to the CIE-Lab color system which describes a color by three components:

L = Brightness: 0 = black … 100 = white
A = color component 1: negative = green, positive = red
B = color component 2: negative = blue, positive = yellow

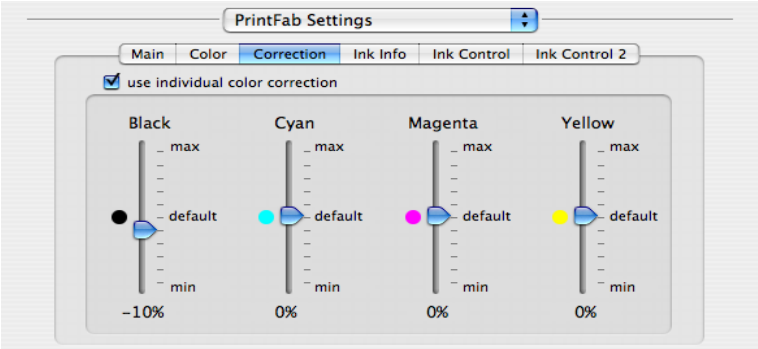
With the slider „A“ the color balance can be turned more greenish (negative values) or more reddish (positive values). Comparably the slider „B“ turns the color tuning more bluish (negative values) or yellowish (positive values).

The “Color/Grey Tone” setting is disabled when printing with the rendering intents “Colorimetric Absolut” or “Colorimetric Relative”.

Note:

Tuning the color balance slightly bluish (e.g. B = -5) does not only comply with our viewing habits (e.g. most types of paper have bluish optical brighteners) but as a side effect also reduces ink consumption (yellow is the color consumed most when printing photos). This may be a reason why many manufacturer's printer drivers print slightly bluish.

PrintFab settings „Correction“



Individual color correction

If necessary, use these controls to correct color reproduction by adjusting the intensities of black, cyan, magenta and yellow ink. This may be useful if you use different ink and / or paper. Of course, color reproduction can be corrected more accurately by creating an individual color profile.
With the option “use individual color correction” you can enable or disable these controls.

Attention:
These controls influence all color modes, even the colorimetric intents. Thus color reproduction of a perfect color profile would be falsified. Use these controls only if you are unsatisfied with color reproduction and need to adjust a color cast.

Black

Adjusts the amount of black ink. The higher the value, the more black ink is applied.

Cyan

Adjusts the amount of cyan ink (light cyan ink is adjusted in the same way, if present).

Magenta

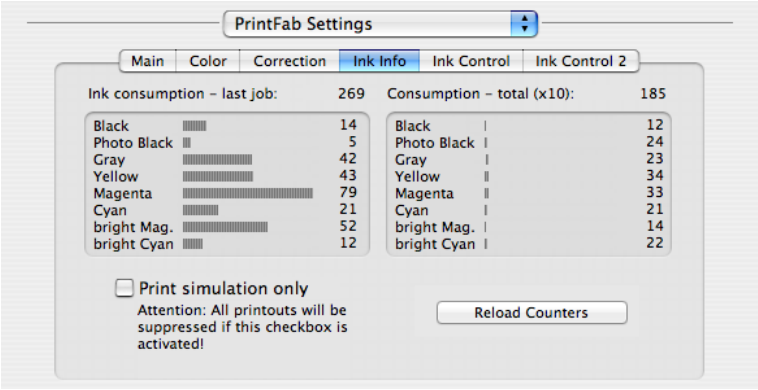
Adjusts the amount of magenta ink (light magenta ink is adjusted in the same way, if present).

Yellow

Adjusts the amount of yellow ink.

PrintFab settings „Ink Info“

The indicators on this menu page report the ink consumption of the last printout and in total. They can help you optimize the ink consumption with the controls of the “Ink Control” menu pages.



The values in the left column show column the ink consumption of the last printout for each individual color. The numerical values are not standardized and therefore cannot be converted into consumed milliliters of ink. Nevertheless you can see how the ink consumption varies when changing settings or printing different documents.

The total ink consumption of all printouts is displayed in the right column. The counters can be reset to zero with the “Reset Counters” button in PrintFab Toolbox (see page 11 for a description of the toolbox dialog).

Of greatest relevance for printers with multicolor cartridges (several colors within the same cartridge) is the relative consumption of the different colors. You can see which color will run out first ahead of time and undertake savings measures to extend the lifetime of the cartridge.

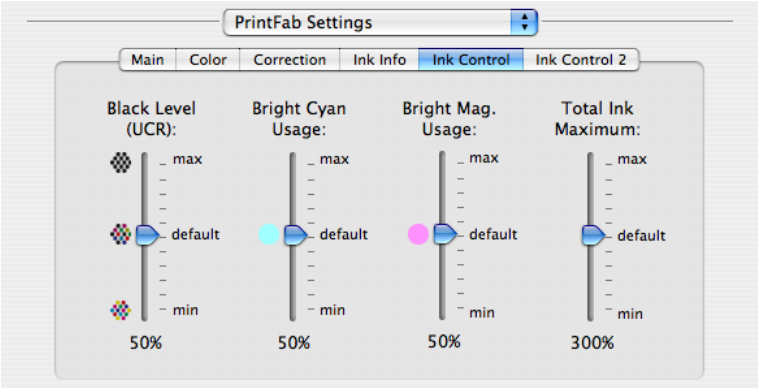
For printers with single color cartridges the total ink consumption of the last printout is most important.

By activating the “Print simulation only” switch you can calculate the ink consumption of a printout without actually printing. The printout is only simulated and is not sent to the printer. Nevertheless the printer must be switched on.

The ink consumption values are visible only after pressing the “Print” button and after the complete print job is executed. Watch the Mac OS X print monitor to see when the print simulation is finished, then open the print dialog again. You can also update the ink values by pressing the button "**Reload Counters**".

Settings “Ink Control“

The controls of this menu page enable you to optimize the print quality or to reduce the ink consumption – whereas high quality and low ink consumption are not necessarily mutually exclusive. With PrintFab you can save ink without a noticeable loss in print quality.



Black Level / UCR (under color removal)

(This control is only available if pure black can be used. Not available with ICC profiles)

The generation of grayscales with colored or black ink is influenced with this slider. The advantage of using more black ink is a lower ink consumption whereas mixing grayscales with more color leads to smoother and less grainy colors. Bright tones of gray are ideally generated with colored ink, whereas with darker gray tones, black ink is used increasingly instead of using colors. The “black level” control determines the usage of black ink when mixing colors.

In the default setting black ink is only used in darker gray tones to avoid visible black dots.

Shifting the slider upwards leads to black ink being used for brighter gray tones and further replaces more color by black ink in the darker gray tones. Each drop of black ink drop substitutes for three drops of colored ink – in this way a considerable amount of ink can be saved. As a drawback, your printout may be slightly rougher.

In contrast, shifting the slider downwards leads to even darker gray tones being printed using colors without using black ink. As a result you get finer gradations but the ink consumption will be higher.

Note:

The setting “Black Level (UCR)” is not effective for the color mode “CMYK Proof” mode. However it affects the “CMYK Proof (mixblack)” mode.

In “CMYK Proof” mode the mixing of black is performed according to the CMYK data of the source document as much as possible. When reproducing color tones that the printer cannot produce as prescribed there may be modifications of this precept – e.g. additional color may be added to black tones in order to obtain a deeper black.

Bright Cyan / Bright Magenta

(This control is not available with ICC color profiles)

The use of the additional colors “bright cyan” and “bright magenta” of photo printers can be controlled with this slider. You can reduce the use of the bright inks (values < 50) by replacing them with the corresponding dark inks. This results in a decreased total ink consumption but produces slightly grainier printouts. Conversely you can use more bright inks with values greater than 50.

When using printers with combined ink cartridges (several colors within the same cartridge) the consumption of all colors should be balanced – i.e. if significantly more bright cyan has already been consumed than dark cyan, you should shift this slider downwards to save bright ink (respectively upwards to save dark ink).

Total Ink Max

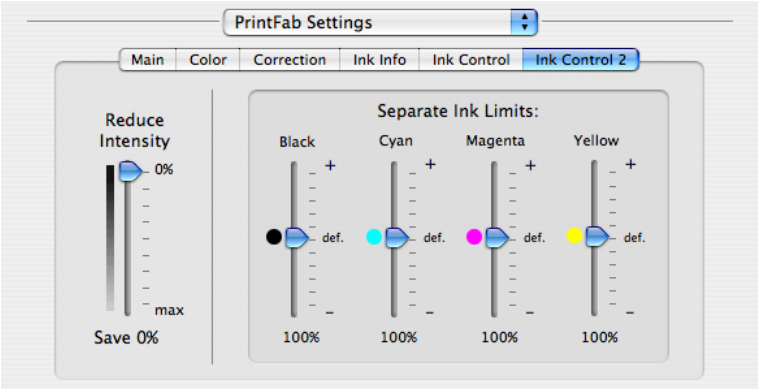
With this control you can limit the maximum amount of ink applied per printer dot. Its purpose is mainly to prevent an oversoaking of the paper and “bleeding” of the colors.

For example “300%” means that a maximum of 100% of the yellow, magenta and cyan inks may be applied at the same time. With “400%” an additional 100% of black ink may be applied.

Higher values cause a richer black (with higher ink consumption), lower values result in a lower ink consumption (with a lower intensity of black).

If excessive ink is applied resulting in smearing (“bleeding”), you can reduce the amount of applied ink by shifting this slider towards lower values. (You may also use the control “reduce intensity” of the “ink control 2” menu).

Settings "Ink Control 2"



Reduce Intensity

This control reduces the amount of applied ink in a way that the complete image is printed brighter. This is useful for test printouts and in cases in which too much ink is applied resulting in “bleeding” of the colors. This control can very effectively reduce the ink consumption, however you will get visibly paler printouts.

Note:

You should set this slider to “0%” if you need a printout with exact colors (rendering intent = “Colorimetric...”). Otherwise all colors will be less intense.

Separate Ink Limits

With these controls you can limit the maximum applied amount of every ink color separately. As only highly saturated colors are affected, most colors will remain unchanged. With its integrated color profile generator, PrintFab tries to adapt the affected colors as much as possible to keep the overall color balance unchanged.

The intensity of colors does not increase linearly with the amount of applied ink. Instead it increases similar to a saturation curve, i.e. in the upper region an application of 20% more ink results in only a 1% increase in color saturation. By cutting back in this region, you can save ink quite effectively without a noticeable loss in print quality. Hence ink is saved in the portions of the image with intense colors.

In case of a printer with a combined ink cartridge (several colors within the same cartridge) it is important to preemptively reduce the limit of the ink that tends to be used up first (in most cases the yellow ink) - this way the lifetime of the cartridge can usually be prolonged up to 30%.

Also you can reduce the amount of ink consumption with single ink printers by cutting back the ink peaks - and you can use this setting without having to consider the remaining ink levels.

If you have chosen „Perception Inksave“ as rendering intent some ink limits are already active. The “Separate Ink Limits” controls will then additionally reduce the ink limits (sliders downwards) or lessen the limitations (sliders upwards).

Exception - black ink limit:

To achieve very dark shades of colors not only pure black ink is used but the color inks yellow, magenta and cyan are added.
The control “black ink limit” does not change the use of the black ink. Instead the amount of color inks which are added to dark shades is changed. As a result the consumption of color inks is reduced when lowering the black ink limit. If you increase the black ink limit, more colored ink will be added to dark gray and black areas - resulting in deeper and darker gray/black shades.

8. Information on color profiles with PrintFab

Printer profiles

On different media types, slightly different color tones will appear when applying the same amount of ink. This is due to different characteristics of paper including ink absorption, chemical reactions of the ink, the paper's surface and even the paper color.
To reproduce true colors with any paper the printer driver's color conversion must be adapted to this paper. This is done by measuring all color deviations and adjusting the color calculation. The ink values for mixing correct colors are stored in a so called "color profile".
The same applies to using different inks (e.g. compatible cartridges) – only with a special color profile the correct reproduction of colors can be achieved.

Your PrintFab printer driver already supports a certain choice of papers for which color profiles are included. Additional printer profiles can be added in the "color profile management" menu of PrintFab Toolbox. By creating an individual color profile for a type of paper, you can improve the trueness of the color (there are even slight differences between the print heads of the same printer model) or adapt your printer to a paper that is not yet supported by this PrintFab printer driver.

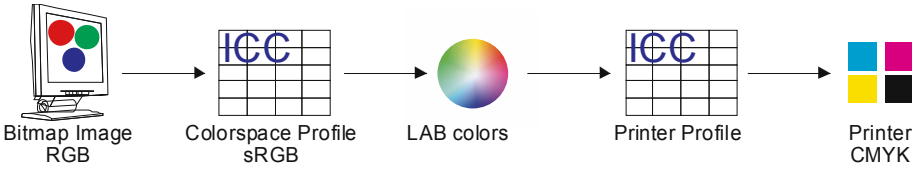
To create an individual color profile, a color chart with many different color patches must be printed on the chosen paper (as many color mixtures as possible) and the printed colors need to be measured exactly.
To determine the exact color tones they need to be measured with a high-quality spectrometer. As such a device is very expensive we offer a low cost measuring-service – i.e. you send us your printed color chart by mail, and we will measure it and return your individual color profile by email.
Alternatively, with the appropriate equipment (spectrometer and software), you can also create profiles on your own and import them as ICC files into PrintFab.

Color spaces

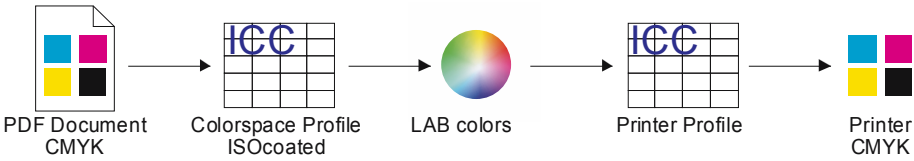
"Color spaces" or "color space profiles" characterize the colors of a print job (e.g. Photo, paper layout or PDF document). In documents, colors are always described by the ratio of primary colors (RGB = red, green, blue resp. CMYK = cyan, magenta, yellow, black). However, the exact color can only be determined if you know the primary colors and their mixtures.
RGB colors are usually related to the colors of a computer display, CMYK color to the colors of a printer or printing machine.

Basically color space profiles are tables that convert device specific colors (e.g. CMYK print densities) into standardized color values. As standardized color systems the "Lab" or "XYZ" system of the CIE (Commission Internationale de l'Eclairage) are used.

The following illustration visualizes the color conversion when printing RGB documents (e.g. Photos in RGB format):



Color conversion when printing CMYK documents (e.g. PDF):



9. How to create individual color profiles

Individual color profiles can either be created inexpensively by the ZEDOnet profile creation service, or by yourself if the necessary measurement equipment is available.

First create a new profile entry with appropriate settings (e.g. Paper class, print quality) in PrintFab Toolbox (as explained in section “New profile...” of the Toolbox description on page 14).

Afer that print a color chart.

a) Printing color charts for the ZEDOnet profile creation service

The necessary color chart can be printed with the “print color chart” button in the “manage color profiles” dialog of PrintFab Toolbox.

b) Printing color charts for creating ICC profiles with own measurement equipment

If you have the necessary measurement equipment available, you can create your own profiles and use them with PrintFab.

Depending on the profile creation software, you can create RGB and/or CMYK profiles. Both types of profiles can be used for printing correct colors with RGB **and** CMYK documents. PrintFab calculates the necessary conversion automatically.

Advantages and disadvantages of RGB and CMYK profiles

- RGB profiles need less color patches than CMYK profiles for achieving the same color accuracy. If your profile creation software only offers CMYK color charts with less than 500 patches, prefer printing an RGB chart.
- Only with CMYK profiles the generation of black can be determined by your profile creation software. With RGB profiles, PrintFab always uses its standard way of generating black.

The profile chart cannot be printed via PrintFab Toobox but from an appropriate application program. Follow the instructions of your profile creation software.
We recommend to use the application software from which you will print most of your documents. Load the profile chart file that is provided by your profile software.

Before printing you should disable any color management of your application software, if possible. In Adobe software like “Photoshop” or “Indesign” you need to select the color space that fits to the color chart (RGB for an RGB profile, CMYK for CMYK profiles) and to disable the printer color management.

Photoshop CS2-4:
“No Color Management”
Photoshop CS5 und höher:
"Photoshop Manages Colors", "Printer Profile" = <Document Profile>

In the print dialog choose the new profile as “Media Type” in “PrintFab Settings” (new profile entries are shown at the end of the list). This “empty” profil is only suited for printing a profile chart (there is no color correction data available yet).
Depending on the type of profile chart set “Mode” (menu “Color”) to “Color (RGB)” or “CMYK Proof”. This is all you need to select – leave the other settings unchanged.

After printing the color chart, measure the color patches with your spectrometer and the belonging software. Have a profile created and save it in ICC format.
The color data of this ICC file can then be imported into the PrintFab color profile with the option “Import color data...” in the “color profile management” menu of PrintFab Toolbox.

10. Printing “Proofs” with exact colors

Printouts with exact colors are primarily needed in prepress, where documents are composed in CMYK mode for a printing press. With PrintFab Pro you can simulate the color reproduction of the printing press with high accuracy.
Note that printing proofs is only possible with the Pro version of PrintFab – not with PrintFab Home.

It is important that you choose the correct document color space in the color management of your application. If you have an ICC profile provided by your printing house, install it in the colormanagement of OS X and add it to the available color spaces in PrintFab Toolbox.
Otherwise select a standard profile, like “ISO Coated” (European standard profile for offset printing on coated paper). In this case manufacturer specific color spaces, like “PrintFab Euro” or “Adobe Euro”, are less suitable.

Please note:
To achieve the most exact color reproduction, you should use color profiles created individually for your printer (and paper). PrintFab's “standard profiles” are produced using an exemplary printer. Thus the standard profiles do not compensate manufacturing tolerances and environmental effects (i.e. temperature, humidity, atmospheric pressure).

Settings in the print dialog of an application

Set the print mode to “CMYK” or “Composite CMYK”. Turn off the colormanagement of the application – PrintFab performs the necessary color conversion to the printer.
If the color management cannot be turned off, select the document's color space as output color space. Thus no further color conversion is done.

PrintFab settings in the print dialog

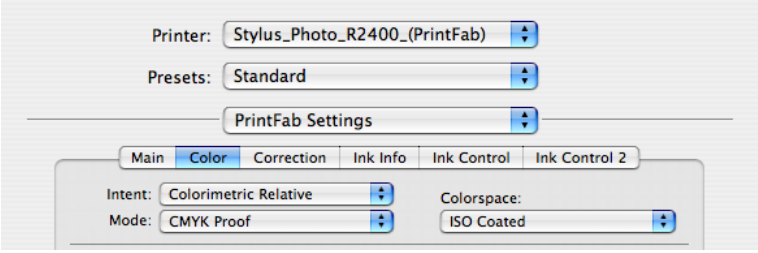
Index card “main”

For achieving correct colors it is essential that you have chosen the correct color profile as “Media type”. If the paper you are using is not offered, we recommend to have a individual profile created. Read more in chapter “9. How to create individual color profiles” on page 51.

Next, choose a sufficient print quality – when using an individually created color profile, it is best to select the print quality that the profile was created with.

Index card “Color”

Choose “Colorimetric Relative” as “Intent” and “CMYK Proof” or “CMYK Proof (Mix Black)” as “Mode”. In “Color space” select the same color space that is used in the color management of your application (you might need to install this color space in PrintFab).



You can find a more detailed description of these settings in chapter “7. Print dialog settings of PrintFab” on page 32.

Index card “Correction”

The option “use individual color correction” should be turned off.

“Ink Control”

Adjust UCR if necessary, reduce “Total Ink Max” if excessive ink is applied resulting in smearing (“bleeding”).

“Ink Control 2”

Leave “Reduce Intensity” at 0%. If fonts or lines are reproduced too thickly, reduce “Separate Ink Limits”.

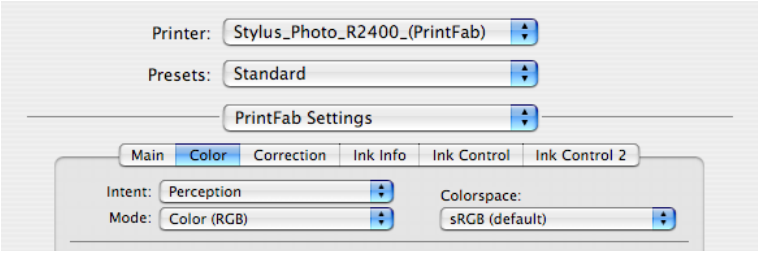
Important:
Colors can only be exact if the correct color space was chosen. Example: Colors cannot be precise if “Adobe Euroscale Coated” is chosen in the application but “ISO Coated” is set in PrintFab.
Solution: Choose a different profile in the application (e.g. “ISO Coated”) or install the missing color space in PrintFab Toolbox by importing the corresponding ICC-profile.

11. Printing from Applications

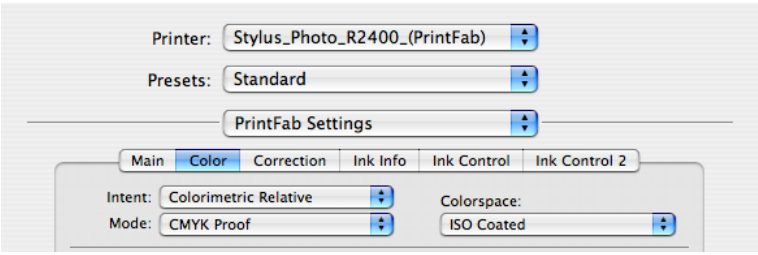
General information on print dialog settings

It is important that the same color mode that is used in the document is chosen in the print dialog, section “PrintFab Settings” / “Color”.

For RGB documents select “Mode” = “Color (RGB)”. Also select the correct document color space (default: “sRGB”) and the desired rendering intent (default: “Perception”).



For CMYK documents choose “Mode” = “CMYK Proof” or “Mode” = “CMYK Proof (Mix Black)” for smoother dithering. The intent should be set to “Colorimetric Relative”. It is important to select the same color space as in the document or application. If the needed color space is not available, install it in the color management dialog of PrintFab Toolbox.



A detailed description of all print dialog settings can be found in chapter “7. Print dialog settings of PrintFab”, page 32.

Printing PDF Documents

Suitable for printing PDF documents are OS X “Preview”, Adobe Acrobat and also the freely available Adobe Reader. For proof-printing PDF documents in CMYK mode, make sure that the correct CMYK settings have been chosen (see above).

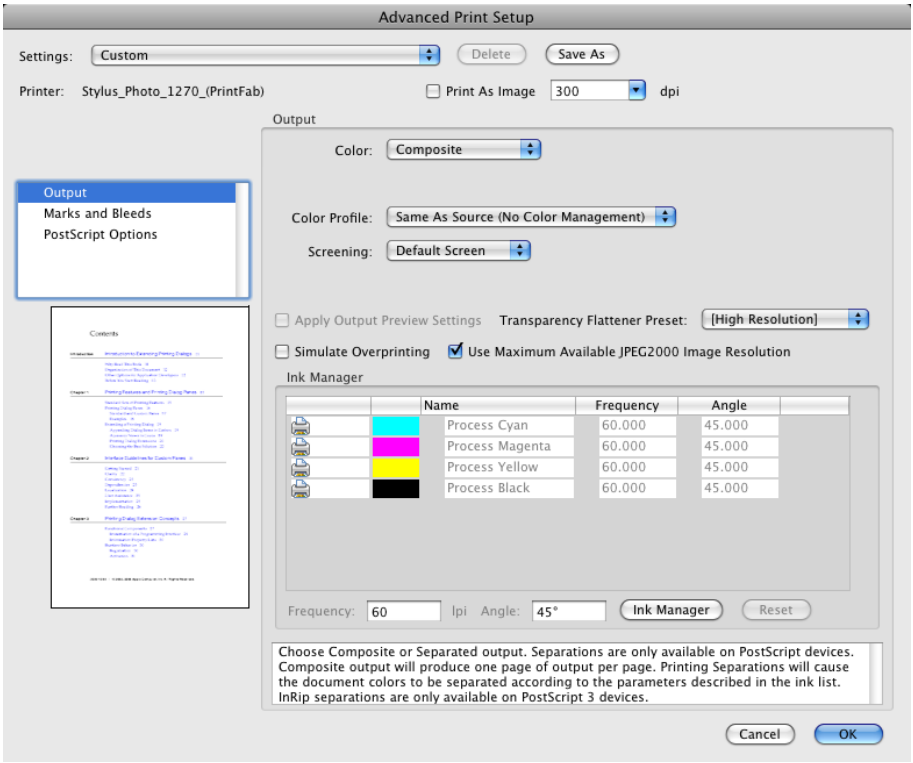
Preview

When printing pictures or PDF documents from OS X Preview, set color matching to “In Printer” in the print dialog, section “Color Matching”.

Acrobat Pro

Normally, no settings have to be changed in the Acrobat print dialog. If colors are incorrect, check the following settings:

In the print dialog, section “Copies & Pages” press “Advanced...” .


Advanced Print Setup
Settings: Custom
Delete
Save As
Printer: Stylus_Photo_1270_(PrintFab)
Print As Image
300
dpi
Output
Color: Composite
Output
Marks and Bleeds
PostScript Options
Color Profile: Same As Source (No Color Management)
Screening: Default Screen
Apply Output Preview Settings
Transparency Flattener Preset: [High Resolution]
Simulate Overprinting
Use Maximum Available JPEG2000 Image Resolution
Ink Manager
Name
Frequency
Angle
Process Cyan 60.000 45.000
Process Magenta 60.000 45.000
Process Yellow 60.000 45.000
Process Black 60.000 45.000
Frequency: 60 lpi Angle: 45°
Ink Manager
Reset
Choose Composite or Separated output. Separations are only available on PostScript devices. Composite output will produce one page of output per page. Printing Separations will cause the document colors to be separated according to the parameters described in the ink list. InRip separations are only available on PostScript 3 devices.
Cancel
OK

In the In the “Advanced Print Setup” dialog, section “Output”, select

“Color Profile” = “Same As Source (No Color Management)”.

If text or graphics are not printed properly, activate the option “Print as Image”.

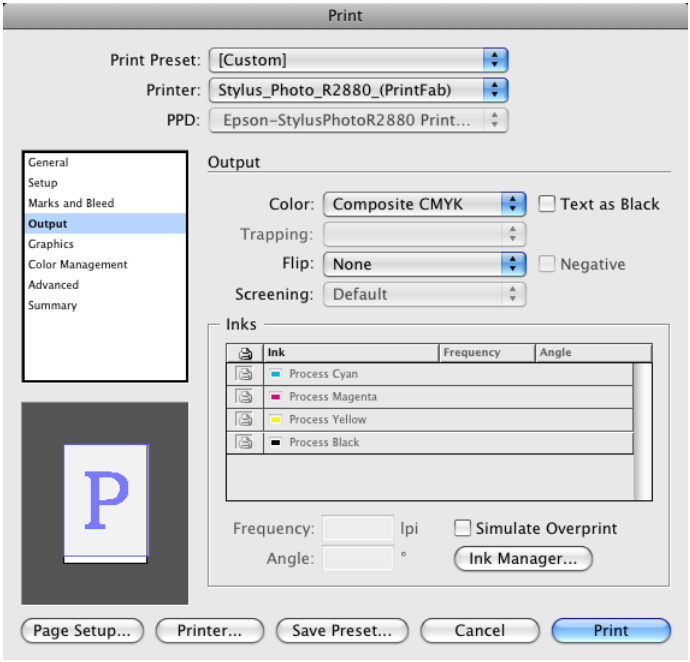
Adobe Reader

If text or graphics are not printed properly or colors are incorrect, activate the option “Print as Image” in Acrobat Reader’s print dialog:

In section “Copies & Pages” choose “Additional Options…” and activate the option “Print as Image”.

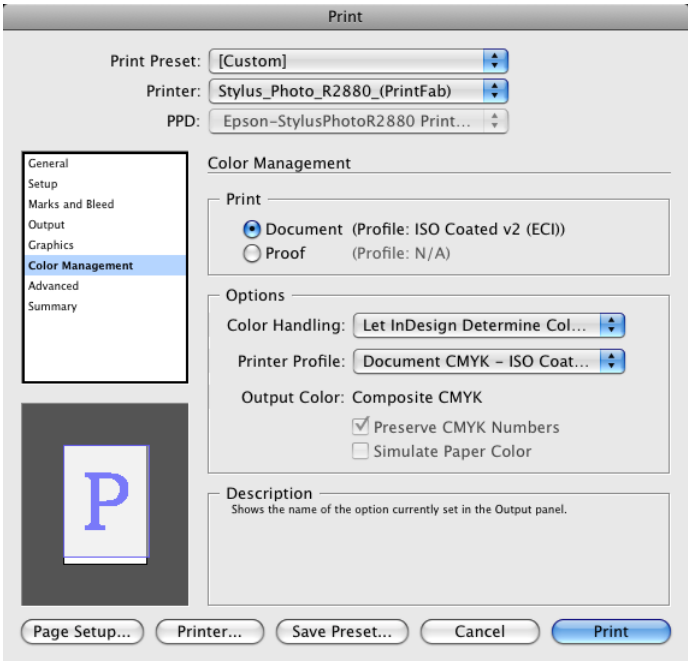
Indesign CS

If you print CMYK documents choose “Color” = “Composite CMYK” in “Output” settings of the Indesign print dialog.

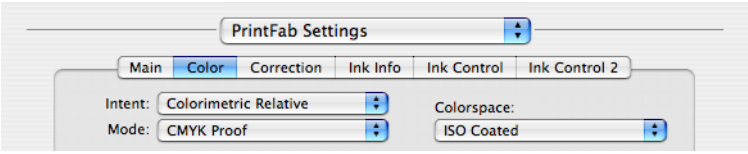


In “Color Management” settings choose

“Print” = “Document”
“Color Handling: Let Indesign Determine Colors”
“Profile” = “Document CMYK - ...”



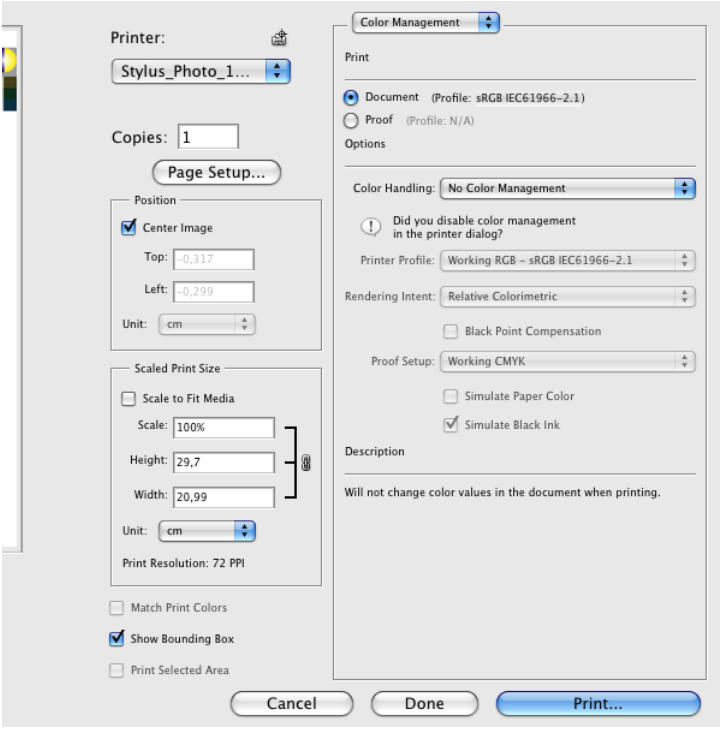
Use the button “Printer...” to open the OS X print dialog and select “PrintFab Settings”. Open tab “Color” and make the following settings:



Mode = “CMYK Proof” or ”CMYK Proof (Mix Black)”
Intent = “Colorimetric Relative” or “Colorimetric Absolute”
Color Space = … (choose the CMYK color space of your document)

Photoshop CS2-4

Open the Photoshop print dialog “Print with Preview”.



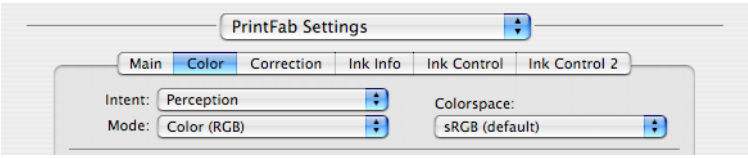
In the “Color Management” options select

“Print” = “Document”
“Options / Color Handling” = “No Color Management”

or

“Options / Color Handling” = “Photoshop Manages Colors”
“Printer Profile” = “sRGB”

Press “Print...” to open the Mac OS X print dialog. Choose the PrintFab driver and select the “PrintFab Settings” menu.



In the “Color” settings select the color mode for your document: “Color (RGB)”for RGB images or “CMYK Proof” for CMYK images. Then select the desired intent and the color space of your image:

Mode = “Color (RGB)”
Intent = “Perception” or “Perception Photo”
Color Space = “sRGB” (choose actual color space of image)

or

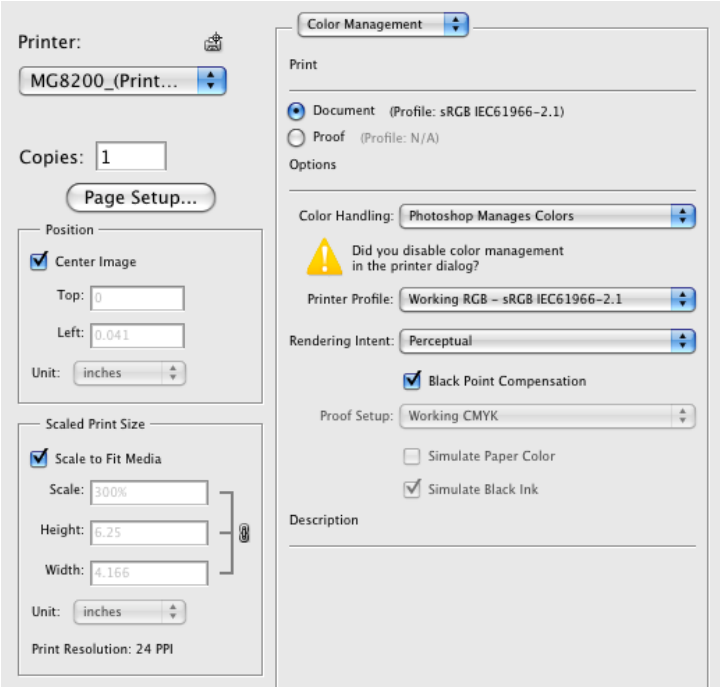
Mode = “CMYK Proof” or “CMYK Proof (Mix Black)”
Intent = “Colorimetric Relative” or “Colorimetric Absolute”
Color Space = ... (choose actual color space of image)

If you chose “Let Photoshop Determine Colors” in Photoshop's print with preview dialog, Photoshop will convert colors to sRGB color space. Please note that for technical reasons colors that cannot be represented by sRGB will lose intensity.
In the “PrintFab Settings” of the print dialog select

Mode = “Color (RGB)”
Intent = “Perception”
Color Space = “sRGB”

Photoshop CS5 and higher

Open the Photoshop print dialog “Print with Preview”.



In the “Color Management” options select

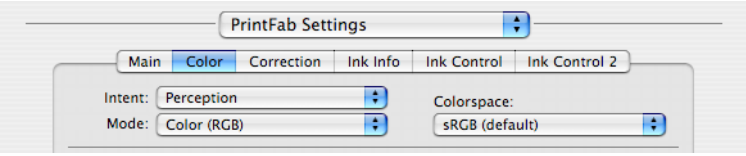
“Document” (**not** “Proof”)

“Options / Color Handling” = “Photoshop Manages Colors”
“Printer Profile” = <Color profile of document>
“Rendering Intent” / "Black Point Compensation" = any setting (no color management done, because document profile and printer profile are the same)

or alternatively (only for RGB documents)

“Printer Profile” = “sRGB” (see Note below)
“Rendering Intent” = e.g. “Perception”

Press “Print...” to open the Mac OS X print dialog. Choose the PrintFab driver and select the “PrintFab Settings” menu.



In the “Color” settings select the color mode for your document: “Color (RGB)”for RGB images or “CMYK Proof” for CMYK images. Then select the desired intent and the color space of your image:

Mode = “Color (RGB)”
Intent = “Perception” or “Perception Photo”
Color Space = “sRGB” (choose actual color space of image)

or

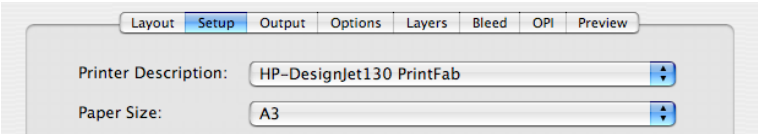
Mode = “CMYK Proof” or “CMYK Proof (Mix Black)”
Intent = “Colorimetric Relative” or “Colorimetric Absolute”
Color Space = ... (choose actual color space of image)

Note: If you chose “Printer Profile” = “sRGB” in Photoshop's print with preview dialog, Photoshop will convert colors to sRGB color space. Please note that for technical reasons colors that cannot be represented by sRGB will lose intensity.
In the “PrintFab Settings” of the print dialog select

Mode = “Color (RGB)”
Intent = “Perception”
Color Space = “sRGB”

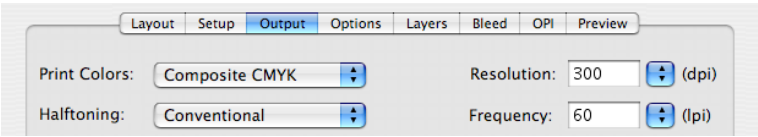
QuarkXPress

Open the QuarkXPress print dialog. In section “Setup”, setting “Printer Description”, choose the correct PPD file for your printer. PrintFab PPD files end on “PrintFab”. Select the correct “Paper Size” for your document.



In section “Output” select

Print Colors = “Composite CMYK”



If only “Grayscale” is available the wrong PPD file may have been chosen. In some cases only “Composite RGB” is available – solution: deactivate QuarkXPress color management (menu “QuarkXPress” / “Preferences...” / “Print Layout” / “Quark CMS”).

Finally press “Printer...” to open OS X printer settings. In section “PrintFab Settings” select

Mode = “CMYK Proof” or “CMYK Proof (Mix Black)“
Intent = “Colorimetric Relative” or “Colorimetric Absolute”
Color Space = … (choose the correct CMYK color space of your document)

12. Tips and tricks for PrintFab

Setting up network printers (e.g. ethernet print server, Windows)

Network printers cannot be set up with PrintFab Toolbox. Use OS X “Printer Setup Utility” instead – see 6. Adding a printer with OS X system utilities on page 24.

Save and restore PrintFab settings using “Presets”

If you don't want to check your PrintFab settings (e.g. Quality, Media Type) each time you print, use the “Presets” option in the print dialog.
Open the list of “Presets” and select “Save As...” to save your current print settings with a name of your choice. All saved settings are listed in the “Presets” field and can be recalled by selecting a list entry.

Enlarge or reduce print size, adjust print position

This can be achieved by defining a custom page size in PrintFab Toolbox. When you create a new page size you can also define a zoom factor and adjust print position – see description of PrintFab Toolbox, section “Custom Page Sizes“, page 21.

Printing from OS9 applications (“Classic” environment or OS 9 client computer)

On OS X version 10.4 or higher OS X printer drivers should also be available from the “Classic” environment.

If you want to print from an OS 9 client computer of if you are using an older version of OS X (or automatic installation under OS9 doesn't work), you need to set up a new printer within OS9 to print to a PrintFab printer.

You need the correct PrintFab PPD file (postscript printer description) which can be found in the OS X system directory

```
/Library/Printers/PPDs/Contents/Resources
```

PPD files for PrintFab start with “pf”, e.g. “pf_Canon_i9950.ppd”. Copy the correct PPD file to the directory

```
/System Folder/Extensions/Printer Descriptions
```

(this is an OS 9 folder. On “Classic” environment this folder is also visible from OS X, on OS 9 clients the PPD file must be copied over the network first).

Further the printer's “queue name” in OS X must be determined. Open OS X “Printer Setup Utility”, click on the printer entry, then on the “Show Info” button. Remember the “Queue Name” displayed in the printer info window.

Now open OS X “System Preferences”, section “Sharing” and enable “**Printer Sharing”**.

In some cases you will also need to activate “AppleTalk” in OS X “System Preferences” / “Ethernet” (or “Airport” if you only use a wireless network connection).

The rest of the printer setup will be done under OS9.

Start the “Desktop Printer Utility” located in “Utilities” and create a new “Printer (LPR)” with the driver “Laserwriter 8”. In the next dialog choose “Change” in the PPD file section and select the PrintFab PPD file. In the LPR printer section also choose “Change” and enter the network address (or network name) of the OS X computer – it is displayed in OS X “System Preferences”, section “Network” / “Ethernet”. The correct IP address is also required if you print from Classic environment – the symbolic address “127.0.0.1” for the local computer is not sufficient.
Press “Verify” to make sure that the address exists. If not, you should enter the IP address instead of the network name.

In the “Queue” field enter the name of the OS X printer queue name (see above). Press “OK” and “Create”, give the printer an appropriate name and “Save”.

Finally open the system dialog “Chooser” (located in the “Apple” pull down menu) and make sure that “Laserwriter 8” is selected. The printer you created should now be available in OS 9 applications.

Where can I find PrintFab color profiles and PPD files?

PrintFab's built-in color profiles are not available as separate files. Profiles are chosen automatically for the selected media type. These profiles are stored as dynamic “PrintFab” profiles and not in ICC profile format.
It is possible to import ICC profiles that have been created using an external profile creation software – see PrintFab Toolbox, chapter ““ on page .

PPD files of all currently installed printers can be found in the system directory /etc/cups/ppd – see also the previous section “Printing from OS9”.

Borderless printing

If borderless printing is supported for your printer you can activate it by choosing a “borderless” page size in the application's page setup dialog.
Please note that the borderless page size will be a bit larger because there is an overprint area on all sides (to make sure that no white areas are visible at paper edges if the paper is not exactly positioned in the printer). This means that the document may need to be reformated to obtain the desired result.

CD / DVD printing

PrintFab supports CD / DVD printing on certain printers.

CD printing with Canon printers

Printing on CD / DVD is possible with Canon's “CD LabelPrint” application. Choose “CD-R” in the page setup dialog and also media type “CD-R” in the printfab settings of the print dialog.

You can also use any graphics application or word processor. In this case graphics & text must not exceed the printable area of the CD – otherwise ink will get onto the CD tray.
The CD center-point should be positioned as follows:

6.5cm / 2.55 inch from left page edge
16.6cm / 5.75 inch from top page edge

CD printing with Epson printers

Unfortunately the “Epson Print CD” application cannot be used with PrintFab drivers.

However, you can use any graphics application or word processor to print on CDs. Graphics & text must not exceed the printable area of the CD – otherwise ink will get onto the CD tray.
The CD center-point should be positioned as follows:

7.5cm / 2.95 inch from left page edge
6.75cm / 2.65 inch from top page edge

Choose “A4” in the application's page setup dialog and set media type to “CD-R” in the printfab settings of the print dialog.

Changing printer default settings using the CUPS web menu

This section describes how to change default settings of a PrintFab printer – i.e. the settings that are used if the “Standard” preset is used in the print dialog.

We recommend as an easier and safer way to save settings in a “Preset” (as described above).

Warning: Only experienced system administrators should edit CUPS configuration files (as described below). An incorrect configuration file can make printing impossible.

Printer defaults can be configured through a WEB browser interface. As WEB

configuration is disabled in OS X it must first be enabled as follows:

Open the application “Terminal” in the “Utilities” folder. Enter the command

```
sudo pico /etc/cups/cupsd.conf
```

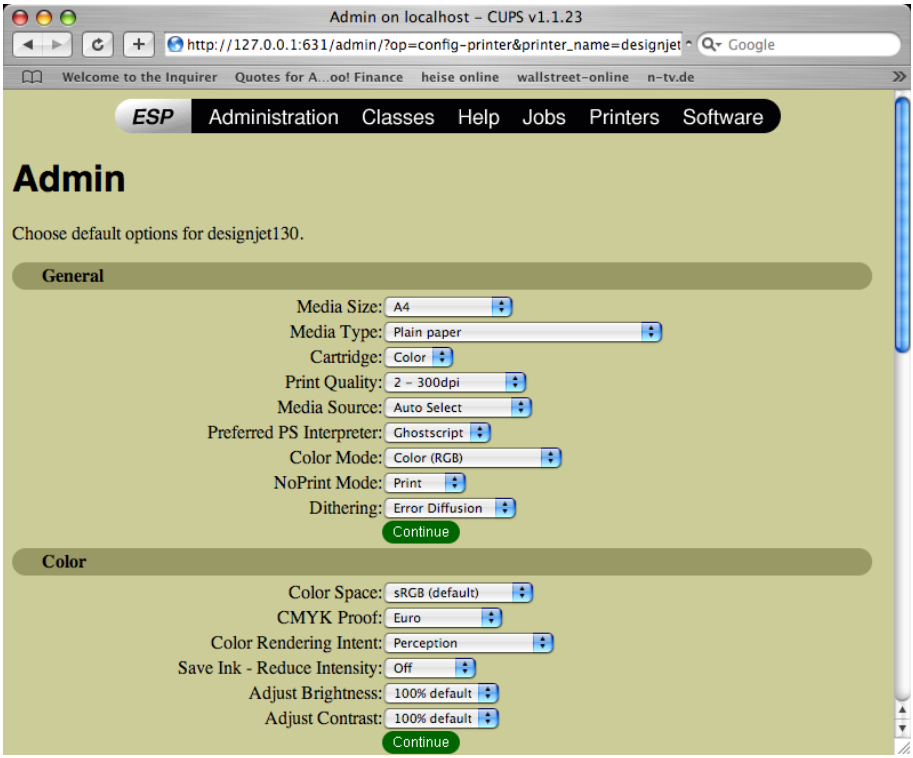
followed by the “Enter” key - your login password will be requested. This starts a text editor and loads a configuration file.
Press the key combination <CTRL> + <W> and search for the text “Limit GET”.

Insert the comment symbol “#” in front of all lines between <Limit GET PUT> and >/Limit>:

```
#<Limit GET PUT>
#AuthType Basic
#AutchCalss System
#</Limit>
```

Finally save by pressing <CTRL> + <X> and confirming with “Y”.
After rebooting your computer you can open the CUPS WEB interface from a web browser like “Safari”. The internet address is http://127.0.0.1:631.

Select “Manage Printers” to open a list of printers. The button “Configure Printer” within a printer entry opens the printer configuration page. All PrintFab settings are available but are arranged a bit different from the OS X print dialog.



Press “Continue” to confirm your changes.

Creating several printer queues with different defaults (e.g. “RGB Photo”, “CMYK Proof”)

It is possible to create several printer queues for the same printer. With the method explained above each printer queue can have its own default settings, e.g. one configured for draft text printing, one for high quality RGB photos and one for CMYK proofs. From your application you can simply choose one of these “printers”.

For example you can configure one of the printer queues for CMYK profing using the CUPS WEB interface:

Media Type = <choose a print medium>
Print Quality = <choose a print quality>
Color Rendering Intent = Colorimetric Relative
Color Mode = CMYK Proof
CMYK Proof = < choose a profile>

13. Problems and Solutions

Installation Problems

Printer not found when adding printer with PrintFab Toolbox

USB printers must be switched on before system start. Switch on your printer and reboot your computer.

Network printers must be added with the “Printer Setup Utility” - see chapter 6. Adding a printer with OS X system utilities, page 24.

No “PrintFab Settings” are visible in the print dialog

If the printer has not been added via *PrintFab Toolbox* or *Printer Setup Utility* after installation of PrintFab:
You have to set up your printer for use with PrintFab even if it was already set up in Mac OS X. As a result there will be two printer drivers for your printer - the manufacturer’s printer driver and the PrintFab driver.
Remember that the PrintFab settings are only available if the PrintFab driver is selected.

Printing Problems

No printout or incomplete printout (USB connection)

This problem is often caused by an erratic data transmition of the USB driver in Mac OS X. As an alternative you can install and use the free “usbtb” USB driver which is distributed under GPL license. The “usbtb” software can be found on our download page (www.printfab.net).

No printout or incomplete printout (network)

Try a different network protocol, e.g. “LPD/LPR” or “Windows” - see chapter 6. Adding a printer with OS X system utilities, page 24.

Also check if the printer can be reached within the network. This can be done from the “Terminal” application (located in Applications/Utilities). Enter “ping <name or ip-addres>”, e.g.

```
ping 192.168.17.33
```

followed by the “Enter” key. After some seconds cancel by holding the “Ctrl” key and pressing “C” to stop the output. Ping will print “0% packet loss” if the connection is successful or “100% packet loss” if the printer cannot be reached. Check your network settings in this case – your printer's IP address may have to be adapted to the address range of your network.

Printing with Firewire connection doesn't work

PrintFab is based on the “CUPS printing system” which includes a Firewire interface module (only OS X version 10.4 and higher). However this module is not compatible with all printers, e.g. it can't be used with most Epson printers. In older versions of OS X no Firewire printing is possible.
In such cases please connect the printer via USB interface.

Incorrect color reproduction / bad print quality

Color management should be switched off in the application's print dialog – please read chapter “11. Printing from Applications”, page 55.

Make sure that the following PrintFab settings in the print dialog are correct:

- Media Type
- Intent (Perception / Colorimetric)
- Color Mode (“Color RGB” or “CMYK Proof” depending on your document)
- Color Space (should be identical to the document color space selected in the application program). If colors are printed too dark, you should change from “sRGB” to “Apple RGB” color space.
- ICC profiles provided by paper manufacturers normally won't work with PrintFab – see page 19.

In the OS X print dialog, section “Color Matching” (OS X 10.4: “ColorSync”):

- select “Color Matching” = “In Printer” to ensure proper color reproduction
- **Note:** don't confuse this setting with the print settings in Adobe CS programs (Acrobat, Indesign, Photoshop, ...). In Adobe products, you have to choose color handling by the application program (e.g. “Let InDesign determine colors”) - see chapter “11. Printing from Applications“.

Please check if your document contains **EPS graphics** (a graphics format). The Postscript interpreter Ghostscript ignores color profiles that are embedded in some EPS graphics, so that colors of embedded EPS graphics may be printed incorrectly. In this case uncheck the option “use Ghostscript as Postscript interpreter” in the print dialog (“PrintFab Settings” / “Main”).

Also check if the correct printer driver has been set up and if the printer is working properly:

- The driver must match the printer model, e.g. don't choose “Canon BJC4000” for a “Canon iP4000” printer.
- Check ink cartridges and print head using PrintFab Toolbox, function “Nozzle Check”. All colors must be present, no lines in the test patterns should be missing – if there are problems, try “Clean Print Heads”.
- Do you use original manufacturer's cartridges or compatible ink cartridges? With compatible cartridges a new color profile should be created.

Custom page size doesn't work correctly

Custom page sizes must be defined in the PrintFab Toolbox application – see section “Custom Page Sizes“ on page 21.
The Mac OS X page setup dialog which can be opened from application programs also offers a “custom page sizes” dialog. However, page sizes defined in this dialog don't work properly with printer drivers like PrintFab which are based on the CUPS printing system.

Borderless printing / CD printing doesn't work

Please read the hints on borderless printing / CD printing in chapter “12. Tips and tricks for PrintFab“, page 64.

Fonts are printed incorrectly
Curves are not smooth (“jagged” curves)
Incorrectly printed details in postscript documents

Such faults can be caused by an incorrect conversion of Postscript commands by the Postscript interpreter. In this case you should try to switch to a different Postscript interpreter (switch “Postscript” in “PrintFab Settings” / “Main”).
Another possible workaround is to open the “Preview” from the print dialog and use the print command from the preview window.
See also the hints on Acrobat Reader in chapter “11. Printing from Applications“ on page 55.